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Research Triangle Park, NC
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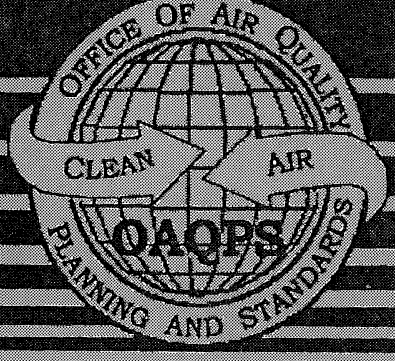
The Plain Language Implementation Assistance Document for 40 CFR Part 63 Subpart DD (Off-Site Waste and Recovery Operations NESHAP)



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The Plain Language Implementation Assistance Document for 40 CFR 63 Subpart DD (National Emissions Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations)

Prepared for:

Office of Air Quality Planning and Standards
US Environmental Protection Agency
Research Triangle Park, NC 27711

Prepared by:

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October 4, 1999

Thank You

This document was prepared by a joint partnership among the U.S. Environmental Protection Agency, State and local air quality agencies personnel and the Chemical Manufactures Association. EPA also worked closely (through a contract) with the Research Triangle Institute (RTI) to develop this document . Special thanks goes out to:

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Appendices

Chapter 1 - Introduction

Knowing if you're subject to the rule is your first step in complying with the rule.

Why should I use this document?

This document can help you understand the requirements for the Off-Site Waste and Recovery Operations National Emission Standards for Hazardous Air Pollutants (also known as OSWRO NESHAP) by helping you determine four main things:

- if the rule applies to your facility and process
- what compliance options are available
- what to monitor, record, and report
- dates by which you must meet requirements

This document does not replace the final rule and we (the EPA) will likely not update its contents to include any new requirements.

Keep informed of rule changes by checking the Federal Register

For a copy of the rule, see EPA's Unified Air Toxics Website (http//:www.epa.gov/ttnuatw1/offwaste/rioswao.html). You should keep abreast of new requirements, printed after publication of this document, by periodically checking the *Federal Register* and the Code of Federal Regulations (CFR).

How do I get copies of this document?

You can get copies of this document in three ways.

Checkout the web page for this rule at http://www.epa.gov/ttnuatw1/offwaste/rioswao.html

- EPA's Unified Air Toxics Website (http://www.epa.gov/ttnuatw1/offwaste/rioswao.html), look under Rules and Implementation, Off-Site Waste and Recovery Operations
- the Library Services Office (MD-35), US EPA, Research Triangle Park, NC 27711 (limited supply)
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Off-Site Waste and Recovery Operations NESHAP Implementation Document Survey

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1 What type of business do you work for? (check one of the following)
Manufacturing □ Contractor □ Tribe □
Government (specify Federal, State, local, tribal) _____ Other _____

2. What are your job responsibilities? (check any of the following that apply)
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3 How did you hear about this guidance? (check one of the following)
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Other _____

Please indicate your agreement with the following statements from 1 = Strongly Agree to 5 = Strongly Disagree

Statement	1	2	3	4	5	N/A
The guidance was timely.						
The document provides a good overview of the rule.						
This document provides the type information that my organization needs to comply.						
The guidance helped us achieve compliance more quickly than if we had developed our own.						
Portions of this document have been incorporated into internal policy documents.						
The format of this document was well organized and easy to understand.						

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extremely useful □ very useful □ so-so useful □ not very useful at all □

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Provide additional comment on the back of this form or on a separate paper

Return survey to: Larry Brockman, US Environmental Protection Agency (EPA), Research Triangle Park (RTP) MD-12, Research Triangle Park, NC 27711, (919)541-5398, fax (919) 541-2664, e-mail brockmann.larry@epa.gov

Chapter 2 - Applicability

What is the purpose of the OSWRO NESHAP?

The National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations (OSWRO) are a set of rules promulgated under 40 CFR part 63. These rules provide for the control of hazardous air pollutants (HAP) emissions from selected waste management and recovery operations that are not subject to federal air standards under other subparts in Part 63.

For a list of HAP regulated by this rule, see Table 1 of the rule.

What are the applicable rule citations in 40 CFR Part 63?

The applicability, general standards, compliance requirements, test methods and procedures, reporting, recordkeeping, and some unit-specific air emission control requirements are specified in 40 CFR Part 63 Subpart DD - National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations. In addition, Subpart DD cross-references the following other subparts in Part 63 for the air emissions control requirements to be applied to specific types of affected sources.

- Subpart OO – National Emission Standards for Tanks-Level 1
- Subpart PP – National Emission Standards for Containers
- Subpart QQ – National Emission Standards for Surface Impoundments
- Subpart RR – National Emission Standards for Individual Drain Systems
- Subpart VV – National Emission Standards for Oil-Water Separators and Organic-Water Separators

*Your facility is a **major source** if there are facility-wide emissions of more than 10 tons per year for a single HAP or more than 25 tons per year for multiple HAP.*

How can I determine if my facility is subject to the rule?

This chapter will help you determine if your facility is subject to the National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations in 40 CFR part 63.

The OSWRO NESHAP is applicable if a facility meets **all** 3 of the following conditions. If any one of these conditions does not apply to the facility, then you are not subject to the rule.

Condition 1 - The facility is a **"major source"** of HAP emissions as defined in General Provisions to 40 CFR Part 63.

Condition 2 - **"Off-site material"** is shipped or transferred to the facility. An "off-site material" is specified in the rule as a material that meets **all** of the following criteria:

1. The material is one of the following as defined in rule:

- **Waste** - any material generated from industrial, commercial, mining, or agricultural operations or from community activities which is discarded, discharged, or is being treated before being discarded or discharged. (This definition is consistent with other NESHAP with the exception of certain specific types of wastes listed in the rule)

- **Used oil** - any oil refined from crude oil or any synthetic oil that has been used and as a result of such use is contaminated by physical or chemical impurities. (Same definition of "used oil" by RCRA in 40 CFR 279.1)

- **Used solvent** - a mixture of aliphatic hydrocarbons or a mixture of one and two ring aromatic hydrocarbons that has been used as a solvent and as a result of such use is contaminated by physical or chemical impurities.

2. The waste, used oil, or used solvent is not generated at the facility but is instead shipped or transferred to the facility from another location.
3. The waste, used oil, or used solvent contains one or more of the specific organic chemical compounds, isomers, and mixtures listed in Table 1 in the rule.

Condition 3 - The "off-site material" is managed at the facility in a waste management operation or recovery operation listed below.

- RCRA hazardous waste management operation regulated as a hazardous waste treatment, storage, and disposal facility (TSDF) under 40 CFR parts 264 or 265.
- RCRA hazardous wastewater treatment operation exempted from air emission control requirements under 40 CFR parts 264 or 265.
- Non-hazardous wastewater treatment operation where this operation is the predominate function conducted at the facility **and** the facility is **not** a publicly-owned treatment works.
- RCRA-exempt hazardous waste recycling facility.
- Used solvent recovery operation.
- Used oil recovery operation.

The following questions will help you determine if your facility meets **all** three of these conditions and is subject to this rule.

1. Is your facility a "major source" of HAP emissions?

   Yes? Go to Question 2

   No? Stop, your facility is not subject to 40 CFR 63 subpart DD.

2. Do you handle any of the following waste management operations or recovery operations? Does your facility...

   2a. Manage RCRA hazardous waste with any subject to the RCRA permitting requirements under either 40 CFR part 264 or 40 CFR part 265?

   Yes? Go to Question 3.
   No? Continue with Question 2b.

   2b. Manage RCRA hazardous waste in a wastewater treatment operation exempt from the RCRA permitting requirements by the provisions in 40 CFR 264.1(g)(6) or 40 CFR 265.1(c)(10)?

   Yes? Go to Question 3.
   No? Continue with Question 2c.

   2c. Recycle or reprocess RCRA hazardous waste in a recovery operation that is exempt from the RCRA permitting requirements by the provisions in 40 CFR 264.1(g)(2) or 40 CFR 265.1(c)(6)?

   Yes? Go to Question 3.
   No? Continue with Question 2d.

   2d. Predominately treat wastewaters that are not RCRA hazardous wastes, while not being owned by a "state" as defined by Clean Water Act section 502(3) or a "municipality" as defined by Clean Water Act section 502(4)?

   Yes? Go to Question 3.
   No? Continue with Question 2e.

   2e. Recycle or reprocess "used solvent"in a recovery operation that is not part of a chemical, petroleum, or other manufacturing process already using air emission controls to comply with another subpart of 40 CFR part 63?

   Yes? Go to Question 3.
   No? Continue with Question 2f.

Waste means a material generated from industrial, commercial, mining, or agricultural operations or from community activities; and this material is discarded, discharged, or is being accumulated, stored, or physically, chemically, thermally, or biologically treated before being discarded or discharged [see 40 CFR 63.681].

Used solvent means a mixture of aliphatic hydrocarbons or a mixture of one and two ring aromatic hydrocarbons used as a solvent and because of such use it is contaminated by physical or chemical impurities [see 40 CFR 63 681].

Used oil means any oil refined from crude oil or any synthetic oil that has been used and as a result of such use is contaminated by physical or chemical impurities [see 40 CFR 279.1].

3f. Re-refine or reprocess "used oil" in a recovery operation that is subject to 40 CFR 279 subpart F - Standards for Used Oil Processors and Refiners?

Yes? Go to Question 3.
No? Stop. If you've answered no to all Questions 2a through 2f your facility is not subject to 40 CFR 63 subpart DD.

3. Are any of the materials listed in Questions 3a through 3c **shipped** or **transferred** to your facility from **other facilities** (i.e., not generated at your facility)? For the purpose of subpart DD all of the following can be considered off-site material. For a list of materials which are not considered off-site material for the purpose of subpart DD see Table 2.1.

3a. Is **waste** shipped or transferred to your facility?

Yes? Go to Question 4.
No? Continue with Question 3b.

3b. Is **used solvent** shipped or transferred to your facility?

Yes? Go to Question 4.
No? Continue with Question 3c.

3c. Is **used oil** shipped or transferred to your facility?

Yes? Go to Question 4.
No? Stop. If you've answered No to all questions 3a through 3c then your facility is not subject to 40 CFR 63 subpart DD

4. Do any of the materials (waste, used oil, or used solvent) being shipped or transferred to your facility contain Hazardous Air Pollutants (HAP) from the list in Table 1 of the rule?

Yes? Go to Question 5.
No? Stop. Your facility is not subject to 40 CFR 63 subpart DD.

5. Again, is your facility a "major source" of HAP emissions? **[Note: At this time if you have not already done so, you must determine whether your facility is a "major source" of HAP emissions (see Question 1).**

   Yes? Then your facility is subject to 40 CFR 63 subpart DD.
   No? Stop, your facility is not subject to 40 CFR 63 subpart DD.

Table 2.1 - Materials not considered off-site materials for the purpose of subpart DD

Material	Citation(§)	Description/Conditions
Household waste	63.680(b)(2)(i)	As defined in 40 CFR 258.2
Radioactive mixed waste	63.680(b)(2)(ii)	Must be managed in accordance with all applicable regulations under the Atomic Energy Act and Nuclear Waste Policy Act authorities.
Remedial activity waste	63.680(b)(2)(iii)	Waste generated as a result of implementing remedial activities under RCRA, CERCLA, or similar Federal or State authorities.
Residential household waste containing HAPs	63.680(b)(2)(iv)	Old paint, home garden pesticides, etc. collected as a community service by government agencies, businesses, or other organizations for the purpose of promoting the proper disposal of waste.
Waste transferred from a chemical manufacturing plant. (Must meet both conditions).	63.680(b)(2)(v)	Such that: 1. Management of waste must be required either under 40 CFR 63, subpart F - National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry or under another subpart of 40 CFR part 63 to meet the air emission control standards for process wastewater specified in 40 CFR 63.132 through 63.147; and 2. Comply with the provisions of 40 CFR 63.132(g)(1)(ii) and (g)(2).
Waste transferred from a chemical manufacturing plant, petroleum refinery, or coke by-product recovery plant which is subject to 40 CFR 61 subpart FF. (Must meet both conditions).	63.680(b)(2)(vi)	Such that: 1. The waste is **not** exempted from meeting the air emission control standards of subpart FF by the provisions of 40 CFR 61.342(a); and 2. You have complied with the provisions of 40 CFR 61.342(f)(2).
Ship ballast water	63.680(b)(2)(vii)	Ballast water pumped from a ship to an onshore wastewater treatment facility.
Hazardous waste stored less than 10 days	63.680(b)(2)(viii)	Must be in compliance with the provisions of 40 CFR 263.12.

Chapter 3 - General Standards

Table 3.1 summarizes the compliance options under the general standards.

My facility is subject to the OSWRO NESHAP, what must I do to comply?

You demonstrate compliance with § 63.680 through § 63.698 by doing all of the following:

1. Identify the affected sources at your facility (i.e., off-site material management units, process vents, and equipment leaks).
2. Identify the applicable compliance options allowed under the general standards for each affected source (see the "Options" section on page 3-4 of this chapter).
3. Choose and implement the compliance option for each affected source.
4. Maintain the records described in Chapter 14 of this document.
5. Submit the reports described in Chapter 14 of this document.

When do I need to comply?

If your facility is an existing source, you must comply by February 1, 2000. If you are a new source, comply before you begin operating.

If you commenced construction or reconstruction	then. . .	and must be in compliance. . .
before Oct. 13, 1994	you are an existing source	by February 1, 2000
after Oct. 13, 1994	you are a new source	upon initial startup

The rule also requires you to submit notifications and annual and semiannual reports. Check Chapter 14 for reporting dates and example forms.

What are the affected sources at my facility?

There are three groups of affected sources:

1. Off-site material management units
2. Process vents
3. Equipment leaks

What is an off-site material management unit?

An off-site material management unit is any one of the following:

For Tank requirements see Chapter 4.

- **Tanks** used to manage "off-site material." A tank is a stationary unit constructed of nonearthen materials (wood, concrete, steel, fiberglass, or plastic) which holds an accumulation of liquids or other material

For Oil-Water and Organic-Water Separators see Chapter 5.

- **Oil-water and organic-water separators** used to manage "off-site material." An oil-water separator is a separator designed to separate oil from water, and an organic-water separator is a separator designed to separate organics from water.

For Surface Impoundment requirements see Chapter 6.

- **Surface impoundments** used to manage "off-site material." A surface impoundment is a natural topographical depression, man-made excavation, or diked area formed primarily of earthen materials which is designed to hold an accumulation of liquids.

For Container requirements see Chapter 7.

- **Containers** used to manage "off-site material." A container is a portable unit used to hold materials.

For Transfer system requirements see Chapter 8.

- **Transfer systems** used to manage "off-site material." A transfer system is any system whose predominant function is to convey liquids from one point to another point within a waste management operation. (A container, or self-propelled vehicle is not considered a transfer system).

Which process vents are subject to the rule?

For Process Vent requirements see Chapter 9.

- Process vents which are installed on any of the following operations used to treat off-site material are subject to subpart DD:

  1. Distillation processes
  2. Fractionation processes
  3. Thin-film evaporation
  4. Solvent extraction
  5. Steam stripping process
  6. Air stripping process

- A process vent is an open-ended pipe, stack, or duct through which a gas stream containing HAP is discharged either intermittently or continuously (This does not include pressure relief vents, vents used as safety devices, any vent subject to the standards for equipment leaks, or stacks or other vents used to exhaust combustion gas from a boiler, furnace, process heater, incinerator, or other combustion device.)

For Equipment Leak requirements see Chapter 10.

What types of equipment components are considered affected equipment leak sources?

Any leak from equipment components (e.g., pumps and valves) which meet **all** of the following criteria:

1. The equipment component is a pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, or instrumentation system.
2. The equipment component contains or contacts off-site material having an organic HAP concentration ≥ 10 percent.
3. The equipment component is intended to operate for 300 hours or more during a 12 month period.

How are the air emission control standards applied to affected sources?

- Air emission controls are required on those affected sources (other than equipment leaks) receiving "off-site material" having a volatile organic HAP (VOHAP) concentration ≥ 500 ppm mass weighted average.

- The air standards under the rule do not apply to either of the following units at the facility:

  - A unit that does not manage "off-site material."
  - A unit that is not part of one of the six types of affected waste management and recovery operations specified in the rule (see page 2-3).

What options do I have in complying with the general standards?

For each affected source other than equipment leaks, you must comply with **one** of the following alternatives:

Option 1. Determine that the average VOHAP concentration of "off-site material" managed in the affected source is < 500 ppmw mass weighted average.

- Determination of VOHAP concentration is made based on "off-site material" composition at the point where it enters the facility ("point-of-delivery" as defined in the rule).

- VOHAP concentration is measured using Method 305 in 40 CFR 63 Appendix A.

- As an alternative to using Method 305, you may determine the HAP concentration of an "off-site material" using any one of the several alternative test methods and then adjust the test results using factors specified in the rule to determine the VOHAP concentration.

Option 2. Install and operate air emission controls in accordance with the applicable control requirements specified in the rule.

Option 3 is explained in Table 3.2.

Option 3. Treat the "off-site material" prior to placement in the affected source to remove or destroy the HAP in accordance with one of the alternative treatment standards specified in the rule.

Option 4. Meet one of the unit-specific control requirement exemptions specified in the rule.

- Rule exemptions for off-site material management units can be found in § 63.683(b)(2).
- Rule exemptions for process vents can be found in § 63.683(c)(2)
- Facility wide exemptions can be found in § 63.680(d)

Table 3.1

Off-Site Waste and Recovery Operations NESHAP Compliance Options for Affected Sources: Process Vents and Off-Site Material Management Units

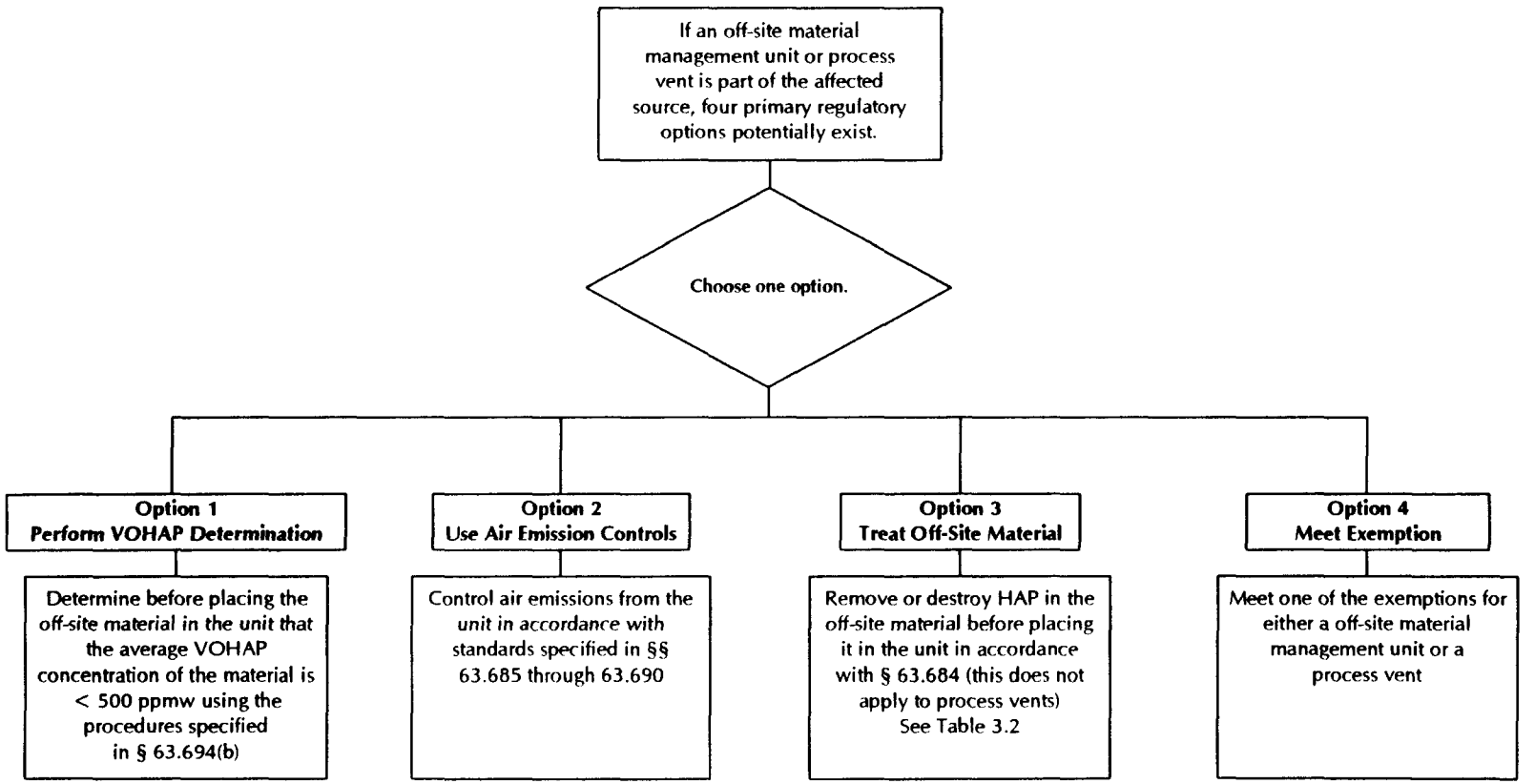
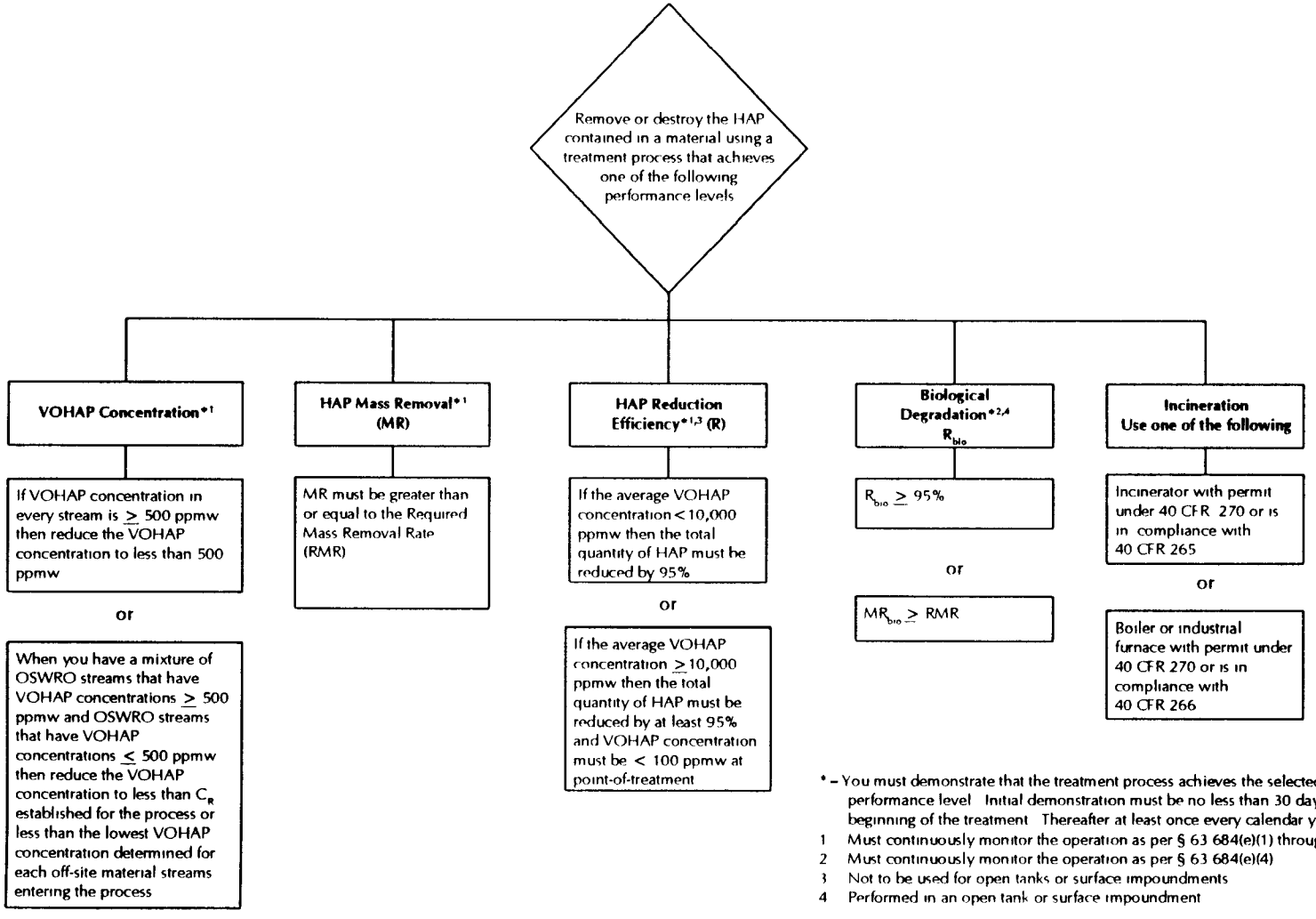


Table 3.2
Option 3
Off-Site Waste and Recovery Operations NESHAP
Off-Site Waste Management Units



* – You must demonstrate that the treatment process achieves the selected performance level Initial demonstration must be no less than 30 days after the beginning of the treatment Thereafter at least once every calendar year

1 Must continuously monitor the operation as per § 63 684(e)(1) through (3)
2 Must continuously monitor the operation as per § 63 684(e)(4)
3 Not to be used for open tanks or surface impoundments
4 Performed in an open tank or surface impoundment

Chapter 4 - Tank Air Emission Control, Inspection and Monitoring Requirements

If you choose to use a control device, be sure to also see the chapters on closed-vent systems and control devices.

As an alternative to using Level 1 controls, you may use Level 2 controls instead.

See Table 4.1 for a walk-through of tank requirements.

What are the air emission control requirements for tanks?

You must first determine which required control level you must use (Level 1 or 2) which is determined by tank capacity and the vapor pressure of the material. Tank control level categories are specified in the rule in Table 3 (for existing tanks) and Table 4 (for new tanks) of the rule.

What are the requirements for a tank using Level 1 controls?

Design

- Use a fixed roof with a closure device which is designed to form a continuous barrier over the entire surface area of the liquid in the tank. The fixed roof can be a separate cover or an integral part of the tank structural design.
- There must be no visible cracks, holes, gaps, or other open spaces between roof section joints or where the roof edge meets the tank wall.
- Each opening in the fixed roof must either be equipped with a closure device or connected to a closed-vent system vented to a control device which removes or destroys organics in the vent stream.
- The fixed roof must also be made of suitable material that will minimize exposure of the off-site material to the atmosphere.

Operation

- Closure devices must be maintained in the closed position with the exception of the following times:

  1. Routine inspection, maintenance, or other activities needed for normal operation.
  2. Removal of accumulated sludge from the bottom of the tank.
  3. Maintaining tank internal pressure in accordance with tank design specifications.

4. Opening a safety device to avoid an unsafe condition.

Inspection/Monitoring

- Visually inspect the fixed roof and its closure devices for any defect that could result in air emissions (i.e., cracks holes, gaps in the roof section between the roof and the tank wall, damaged seals or gaskets on the closure devices, and damaged or missing closure devices). Perform the initial inspection immediately following installation and thereafter at least once every calender year. Make certain that you maintain all of the required records for every inspection conducted which must include the following.

  1. Tank ID number (or other unique identifier)
  2. The date of the inspection
  3. For each defect record: The location of the defect, the date of detection, and corrective action taken to repair the defect.

- Any defect must be repaired within 45 calender days of detection with the first effort at repair within 5 calender days of detection. If you determine that a tank must be emptied or taken out of service to perform the repair and no alternative tank capacity is available, then repair may be delayed until the next time the material generating unit stops operation and must be completed before the generating unit resumes operation. Under this circumstance, you must record the reason for the delay and the date the completion of the repair is expected.

General Recordkeeping requirements are in Chapter 14

- Be certain to also maintain any records specified in the General Recordkeeping requirements of this document.

What are the requirements for tank using Level 2 controls?

Use any one of the following five alternatives:

1. A tank equipped with a fixed roof with internal floating roof.
2. A tank equipped with an external floating roof

3. A tank equipped with a vapor-tight cover vented to ≥95% control device
4. A pressure tank
5. A tank inside enclosure vented to combustion control device

If I choose to use a tank equipped with a fixed roof with an internal floating roof, how do I comply with the rule?

Meet the standards in § 63.685(e) which are described as follows:

Design

- The internal floating roof must be designed to float on the liquid surface except when it must be supported by leg supports. It must also be equipped with a continuous seal between the wall of the tank and the floating roof edge which must be either:

  1. A single continuous seal that is either a liquid-mounted seal or a metallic shoe seal.

  or

  2. Two continuous seals mounted one above the other. The lower seal may be a vapor-mounted seal.

- The internal floating roof must also meet the following specifications:

  1. Each opening in a noncontact internal floating roof (except for automatic bleeder vents and rim space vents) must provide a projection below the liquid surface.
  2. Each opening (except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains) must be equipped with a gasketed cover or a gasketed lid.
  3. Each penetration of the roof for the purpose of sampling must have a slit fabric that covers at least 90 percent of the opening.
  4. Automatic bleeder vents and rim vents are to be gasketed.
  5. Penetrations which allow for a ladder must have a gasketed sliding cover.

6. Penetrations which allow for the supporting columns of the fixed roof must have a flexible fabric sleeve or gasketed sliding cover.

Operation

- Filling of the tank must be continuous and accomplished as soon as practical. Prior to filling, each cover, access hatch, gauge float well or lid on any opening in the internal floating roof must be bolted or fastened closed.

- Automatic bleeder vents are to be set closed at all times when the roof is floating with the exception of when it is being floated off or is being landed on the leg supports. Rim space vents must only be open when the internal floating roof is not floating or when the pressure beneath the rim exceeds the manufacturer's recommended settings.

Inspection/Monitoring

- Visually inspect the floating roof and its closure devices for any defects (as specified in § 63.695(b)(1)(i)). Defects to check for may include: the internal floating roof not floating on the surface of the liquid inside the tank; liquid has accumulated on top of the internal floating roof; any portion of the roof seals that have detached from the roof rim; holes, tears, or other openings that are visible in the seal fabric; etc. Make certain that you maintain all of the required records for every inspection conducted which must include the following.

  1. Tank ID number (or other unique identifier)
  2. The date of the inspection
  3. For each defect record: The location of the defect, the date of detection, and corrective action taken to repair the defect.

- Inspect the internal floating roof components which includes visual inspection of the internal floating roof components through openings on the roof at least once every calendar year after initial fill, and visually inspect the internal floating roof, primary seal, secondary seal (if in service), gaskets, slotted membranes, and sleeve

seals(if any) each time the tank is emptied and degassed and at least every 10 years.

- If an internal floating roof is equipped with two continuous seals mounted one above the other, you must visually inspect the internal floating roof, primary and secondary seals, gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every five years.

- Any defect should be repaired within 45 calender days of detection. If within this 45-day period the defect cannot be repaired, you may be allowed two 30-day extensions. Under this circumstance, you must record a description of the defect, explain why alternative storage capacity is not available, and specify a schedule of actions to ensure equipment will be repaired as soon as possible.

- Be certain to also maintain any records specified in the General Recordkeeping requirements of this document.

If I choose to use a tank equipped with an external floating roof, how do I comply with the rule?

Meet the standards in § 63.685(f) which are described as follows:

Design

- The external floating roof must be designed to float on the liquid surface except when it must be supported by leg supports. It must also be equipped with two continuous seals, one above the other, between the wall of the tank and the roof edge (The primary being the lower seal and the secondary being the upper seal). The primary seal must meet the following specifications:

  1. It must be a liquid-mounted seal or a metallic shoe seal.
  2. Total area of the gaps between the tank wall and the primary seal must not exceed 212 cm^2 per meter of tank diameter and the width of any portion of these gaps are not to exceed 3.8 cm.

3. If a metallic shoe seal is used, it must be designed so that one end extends into the liquid and the other end extends a vertical distance of at least 61 cm above the liquid surface.

The secondary seal must meet the following specifications:

1. It is to be mounted above the primary seal and cover the annular space between the floating roof and the wall of the tank.
2. Total area of the gaps between the tank wall are not to exceed 21.2 cm^2 per meter of tank diameter, and the width of any portion of these gaps are not to exceed 1.8 cm.

- The external floating roof must also meet the following specifications:

1. Each opening in a noncontact external floating roof must provide a projection below the liquid surface, with the exception of automatic bleeder vents and rim space vents.
2. Each opening must be equipped with a gasketed cover, with the exception of automatic bleeder vents, rim space vents, roof drains, and leg sleeves.
3. Each access hatch and gauge float well is to be equipped with covers which can be bolted or fastened when the cover is closed.
4. Each automatic bleeder vent and rim space vent is to be equipped with a gasket.
5. Each roof drain which empties into the managed liquid is to be equipped with a slotted membrane fabric cover which covers at least 90 percent of the opening.
6. Each unslotted and slotted guide pole is to be equipped with a gasketed sliding cover or flexible fabric sleeve seal.
7. Each unslotted guide pole is to have a gasketed cap on the end of the pole.
8. Each slotted guide pole is to be equipped with a gasketed float or other device which closes off the surface from the atmosphere.

9. Each gauge hatch and each sample well is to be equipped with a gasketed cover.

If a tank ceases to hold off-site material for a period of one year or more, subsequent introduction of off-site material into the tank will be considered an initial operation for the purposes of §§ 63.695(b)(2)(i)(A) and (B).

Operation

- Filling of the tank must be continuous and accomplished as soon as practical.
- Openings in the roof, with the exception of automatic bleeder vents, rim space vents, roof drains, and leg sleeves, must be maintained in the closed position except when they must be opened for access.
- Covers on access hatches and gauge floats are to be bolted or fastened when they are in the closed position.
- Automatic bleeder vents are to be set closed at all times when the roof is floating with the exception of when it is being floated off or is being landed on the leg supports. Rim space vents must only be open when the external floating roof is not floating or when the pressure beneath the rim exceeds the manufacturer's recommended settings.
- The cap on the end of each unslotted guide pole is to be secured in the closed position at all times except when measuring the level or collecting samples of the liquid in the tank.
- The cover on each gauge hatch or sample well is to kept closed at all times except when the hatch or well must be opened for access.
- Both the primary seal and the secondary seal are to completely cover the annular space between the external floating roof and the tank wall at all times except during inspections.

Inspection/Monitoring

- Measure the gaps between the tank wall and the primary seal as well as the gaps between the tank wall and the secondary seal within 60 days after initial operations of the tank following installation of the floating roof and, thereafter, at least once every five years.

- Measure the total surface area of the gaps in the primary seal and in the secondary seal individually. Measure at one or more floating roof levels when the roof is floating off the roof supports and measure around the entire perimeter of the floating roof in each place where a 0.32 cm diameter uniform probe passes freely. Also measure the circumferential distance of each measured location. Use probes of different sizes to accurately determine the width of the gap and multiply the width by its respective circumferential distance. Total gap area is calculated by summing all of the gap surface areas for both the primary seal and the secondary seal individually, and then dividing by the nominal diameter of the tank.

- Make certain that you maintain all of the required records for every inspection conducted which must include the following.

  1. Tank ID number (or other unique identifier)
  2. The date of the inspection
  3. For each defect record: The location of the defect, the date of detection, and corrective action taken to repair the defect.

- Any defect must be repaired within 45 calender days of detection. If within this 45-day period the defect cannot be repaired, you may be allowed two 30-day extensions. Under this circumstance, you must record a description of the defect, explain why alternative storage capacity is not available, and specify a schedule of actions to ensure equipment will be repaired as soon as possible.

- Be certain to also maintain any records specified in the General Recordkeeping requirements of this document.

General Recordkeeping requirements can be found in Chapter 14.

If I choose to vent to a control device, how do I comply with the rule?

If you choose to use a control device, be sure to also see the chapters on closed-vent systems and control devices.

Meet the standards in § 63.685(g) which are described as follows:

Design

- Use a fixed roof with a closure device which is designed to form a continuous barrier over the entire surface area

of the liquid in the tank. The roof and the closure devices are to be constructed of suitable materials so as to minimize the exposure of the off-site material to the atmosphere. Openings not vented to a control device are to be equipped with a closure device.

- If the pressure in the vapor headspace is less than atmospheric pressure then there must be no visible cracks, holes, gaps or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

- If the pressure in the vapor headspace is greater than atmospheric pressure, then the closure device is to operate with no detectable organic emissions.

Operation

- Closure devices are to be maintained in a closed position with the exception of the following times:

  1. Accessing the tank for performing routine inspection, maintenance, or other activities needed for normal operation.
  2. Removal of accumulated sludge or other residues from the bottom of the tank.
  3. Opening of a safety device to avoid an unsafe condition.

Inspection/Monitoring

- Check for defects that could result in air emissions by visually inspecting the fixed roof and its closure devices. Defects include: visible cracks, holes, or gaps in the roof sections or between the roof and the separator wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices. Make certain that you maintain all of the required records for every inspection conducted which must include the following.

  1. Tank ID number (or other unique identifier)
  2. The date of the inspection

3. For each defect record: The location of the defect, the date of detection, and corrective action taken to repair the defect.

- Perform the initial inspection following installation of the fixed roof and thereafter at least once every calendar year, unless you determine that the inspection would expose a worker to dangerous, hazardous, or otherwise unsafe conditions. If this is the case, you must maintain documentation which designates the equipment as "unsafe" and explains why the equipment is unsafe. You must also implement a written plan to inspect the equipment as frequently as is practicable.

- Any defect must be repaired within 45 calender days of detection. If within this 45-day period the defect cannot be repaired, you may be allowed two 30-day extensions. Under this circumstance, you must record a description of the defect, explain why alternative storage capacity is not available, and specify a schedule of actions to ensure equipment will be repaired as soon as possible.

- Be certain to also maintain any records specified in the General Recordkeeping requirements of this document (see Chapter 14).

If I choose to uses a pressure tank, how do I comply with the rule?

Meet the standards in § 63.685(h) which are described as follows:

Design

- The tank is to be designed so that it does not vent to the atmosphere as a result of the compression of the vapor headspace during filling.

- All closure devices are to be designed to operate with no detectable organic emissions.

Operation

- The tank is to be operated as a closed system that does not vent to the atmosphere with the exception of the following conditions:

1. Opening of a safety device to avoid an unsafe condition.
2. Purging of the inerts from the tank so long as the purge stream is routed to a closed-vent system and control device (see section on closed-vent systems and section on control devices for further guidance).

- Be certain to also maintain any records specified in the General Recordkeeping requirements of this document.

If I choose to use an enclosure vented through a closed-vent system to an enclosed combustion control device, how do I comply with the rule?

Meet the standards in § 63.685(i) which are described as follows:

Use "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741.

Design

- The tank is to be located inside an enclosure which meets the criteria for a total permanent enclosure. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or to direct airflow into the enclosure.

- The enclosure is to be vented through a closed-vent system to an enclosed combustion control device which meets the standards for either a vapor incinerator, boiler, or process heater.

Operation

- Opening of a safety device is allowed at any time conditions require it to avoid an unsafe condition.

- Closed-vent systems are to be operated in accordance with the requirements for closed-vent systems (see closed-vent system section).

- Combustion control devices are to be operated in accordance with the requirements of control devices (see control devices section).

**see closed-vent systems section and control devices section for further inspection guidance*	*Inspection/Monitoring** • You must perform the verification procedure for the enclosure initially when the enclosure is first installed and, thereafter, annually.

Table 4.1. Standards: Tanks

Question No.	Compliance Requirement	
1.	Do you use a tank to manage off-site material with a maximum HAP vapor pressure greater than or equal to 76.6 kPA?	*Yes, go to question 6* *No, go to question 2*
2.	Do you use a tank to manage for a waste stabilization process (defined in § 63.681)?	*Yes, go to question 6* *No, go to question 3*
3.	For new and existing sources, determine whether you will need to use Tank Level 1 controls or Tank Level 2 controls. For existing sources, this can be determined in Table 3 of the rule. For new sources, this can be determined in Table 4 of the rule.	*Level 1, go to question 4* *Level 2, go to question 5*
4.	If you use Tank Level 1 controls, meet the following requirements: ❑ Determine the maximum HAP vapor pressure of the off-site material before the first time it is placed in the tank. ❑ Make a new determination any time a change in the off-site material could make a change in the maximum HAP vapor pressure. ❑ Control air emissions in accordance with 40 CFR 63 subpart OO. ❑ As an alternative, control air emissions in accordance with Tank Level 2 requirements. ❑ As an alternative, a tank used as an interim transfer point may operate without a cover during those periods of transfer. At all other times, air emissions must be controlled as stated in subpart OO.	*Level 1 controls must meet the requirements of § 63.685(c)* *If you meet Tank Level 1 requirements, you are done with this section.*

Table 4.1. Standards: Tanks

Question No.	Compliance Requirement	
5.	If you use Tank Level 2 controls, use one of the following tanks: *Check one of the following*: ❑ A fixed-roof tank equipped with an internal floating roof that meets the requirements of § 63.685(e). ❑ A tank equipped with an external floating roof that meets the requirements of § 63.685(f). ❑ A tank vented through a closed-vent system to a control device in accordance with the requirements of § 63.685(g). ❑ A pressure tank designed and operated in accordance with § 63.685(h). ❑ A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device in accordance with § 63.685(i).	*Level 2 controls must meet the requirements of § 63.685(d)* *If you meet Tank Level 2 requirements, you are done with this section.*
6.	If your tank is used for a waste stabilization process, control air emissions by using Tank Level 2 controls.	*Go to question 5* *If not go to question 7*
7.	If your tank manages off-site material having a maximum HAP vapor pressure ≥ 76.6 kPa use one of the following tanks: *Check one of the following*: ❑ A tank vented through a closed-vent system to a control device. ❑ A pressure tank. ❑ A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device.	*Follow the requirements of* *§ 63.685(g)* *§ 63.685(h)* *§ 63.685(i), respectively.*

Chapter 5 - Oil-Water and Organic-Water Separator Air Emission Control, Inspection and Monitoring Requirements

See table 5.1 for a walk-through of the standards for oil-water and organic-water separators.

What are the air emission control standards for oil-water and organic-water separators?

- Use air emission controls per 40 CFR 63 subpart VV.

Use any **one** of the following three alternatives

1. A separator equipped with an external floating roof.
2. A separator equipped with a fixed roof vented through a closed-vent system to a control device.
3. A pressurized separator that operates as a closed system.

If I choose to use a separator equipped with an external floating roof, how do I comply with the rule?

Meet the standards in § 63.1043 which are described as follows:

Design

- The external floating roof must be designed to float on the liquid surface during normal operations. It must also be equipped with two continuous seals, one above the other, between the wall of the separator and the roof edge (The primary being the lower seal and the secondary being the upper seal). The primary seal must meet the following specifications:

  1. It must be a liquid mounted seal or a metallic shoe seal.
  2. Total area of the gaps between the separator wall and the primary seal must not exceed 67 cm^2 per meter of separator wall perimeter and the width of any portion of these gaps are not to exceed 3.8 cm.

  The secondary seal must meet the following specifications:

  1. It is to be mounted above the primary seal and cover the annular space between the floating roof and the wall of the separator.

If a separator ceases to hold off-site material for a period of one year or more, subsequent introduction of off-site material into the tank will be considered an initial operation for the purposes of §§ 63.1043(b)(1)(i) and (ii).

2. Total area of the gaps between the separator wall are not to exceed 6.7 cm^2 per meter of separator wall perimeter, and the width of any portion of these gaps is not to exceed 1.3 cm.

- Each opening in the floating roof is to be equipped with a closure device designed so that when the closure device is closed there are no visible cracks, holes, gaps or other open spaces in the closure device or between the perimeter of the opening and the closure device.

- A floating roof may be equipped with an emergency roof drain for the removal of stormwater. These drains are to be equipped with either a slotted membrane that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

Operation

- The floating roof must float on the liquid and any closure device must be maintained in the closed position with the exception of the following times:

  1. To provide access to the separator for performing routine inspection, maintenance, or other activity required for normal operations.
  2. To remove accumulated sludge from the bottom of the separator.

Inspection/Monitoring

- Measure the gaps between the separator wall and the primary seal as well as the gaps between the separator wall and the secondary seal within 60 days after initial operations of the separator following installation of the floating roof; thereafter, measure the gaps at least once every five years.

- Measure the total surface area of the gaps in the primary seal and in the secondary seal individually. Measure at one or more floating roof levels when the roof is floating off the roof supports and measure around the entire perimeter of the floating roof in each place where a 0.32 cm diameter uniform probe passes freely. Also measure

the circumferential distance of each measured location. Use probes of different sizes to accurately determine the width of the gap and multiply the width by its respective circumferential distance. Total gap area is calculated by summing all of the gap surface areas for both the primary seal and the secondary seal individually, and then dividing by the nominal diameter of the separator. Maintain a record of all the measurements performed including the raw data obtained and the calculations performed to determine the total gap surface area.

- If your floating roof's total gap surface area exceeds the allowed surface area, you must maintain records that describe the repairs which were made and the date upon which these repairs were made or when the separator was emptied.

- Make certain that you maintain all of the required records for every inspection conducted which must include the following.

  1. Separator ID number (or other unique identifier)
  2. The date of the inspection
  3. For each defect, record: The location of the defect, the date of detection, and corrective action taken to repair the defect.

- You must also maintain documentation describing the design of the floating roof installed on the separator including the dimensions of the floating roof. Be certain to also maintain any records specified in the General Recordkeeping requirements of this document.

For General Recordkeeping requirements, see Chapter 14.

If you choose to use a control device, be sure to also see the chapters on closed-vent systems and control devices (Chapters 11 and 12).

If I choose to use a fixed roof vented through a closed-vent system to a control device, how do I comply with the rule?

Meet the standards in § 63.1044 which are described as follows:

Design

- Use a fixed roof with a closure device which is designed to form a continuous barrier over the entire surface area of the liquid in the separator. The roof and the closure

devices are to be constructed of suitable materials so as to minimize the exposure of the off-site material to the atmosphere. Openings not vented to a control device are to be equipped with a closure device.

- If the pressure in the vapor headspace is less than atmospheric pressure then there must be no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

- If the pressure in the vapor headspace is greater than atmospheric pressure, then the closure device is to operate with no detectable organic emissions.

Operation

- Closure devices are to be maintained in a closed position and the vapor headspace underneath the fixed roof is to be vented to a control device with the exception of the following times:

    1. Accessing the separator for performing routine inspection, maintenance, or other activities needed for normal operation.
    2. Removing accumulated sludge or other residues from the bottom of the separator.
    3. Opening of a safety device to avoid an unsafe condition.

Inspection/Monitoring

- Check for defects that could result in air emissions by visually inspecting the fixed roof and its closure devices. Defects include: visible cracks, holes, or gaps in the roof sections or between the roof and the separator wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices. Make certain that you maintain all of the required records for every inspection conducted which must include the following.

    1. Separator ID number (or other unique identifier)

2. The date of the inspection
3. For each defect record: The location of the defect, the date of detection, and corrective action taken to repair the defect.

- Perform the initial inspection following installation of the fixed roof and thereafter at least once every calendar year, unless you determine that the inspection would expose a worker to dangerous, hazardous, or otherwise unsafe conditions. If this is the case, you must maintain documentation which designates the equipment as"unsafe" and explains why the equipment is unsafe. You must also implement a written plan to inspect the equipment as frequently as is practicable.

- Any defect must be repaired within 45 calender days of detection with the first effort at repair within 5 calender days of detection. If you determine that a separator must be emptied or taken out of service to perform the repair and no alternative separator capacity is available, then repair may be delayed until the next time the material generating unit stops operation and must be completed before the generating unit resumes operation. Under this circumstance, you must record the reason for the delay and the date the completion of the repair is expected.

For General Recordkeeping requirements, see Chapter 14.

- Be certain to also maintain any records specified in the General Recordkeeping requirements of this document.

If I choose to use a pressurized separator, how do I comply with the rule?

Meet the standards in § 63.1045 which are described as follows:

Design

- The separator is to be designed so that it does not vent to the atmosphere during operation of the separator at its design capacity.

- All closure devices are to be designed to operate with no detectable organic emissions.

Operation

- The separator is to be operated as a closed system that does not vent to the atmosphere except under the following conditions:

  1. Opening of a safety device to avoid an unsafe condition.
  2. Purging of the inerts from the separator so long as the purge stream is routed to a closed-vent system and control device (see Chapter 11 on closed-vent systems and Chapter 12 on control devices for further guidance).

- Be certain to also maintain any records specified in the General Recordkeeping requirements of this document (see Chapter 14).

Table 5.1. Standards: Oil-Water and Organic-Water Separators

Question No.	Compliance Requirement	
1.	Control air emissions from oil-water and organic-water separators using one of the following: *Check one of the following*: ❑ A floating roof. ❑ A fixed-roof that is vented through a closed-vent system to a control device (where a floating roof is infeasible). ❑ A pressurized separator that operates as a closed system.	*Each option must comply with the applicable provisions in 40 CFR 63 subpart VV–National Emissions Standards for Oil-Water Separators and Organic-Water Separators.*

Chapter 6 - Surface Impoundment Air Emission Control, Inspection, and Monitoring Requirements

See Table 6.1 for a walk-through of the standards for surface impoundments.

What are the air emission control standards for surface impoundments?

- Use air emission controls per 40 CFR 63 subpart QQ

Use a surface impoundment equipped with either of the following two alternatives:

1. Floating Membrane Cover
2. A cover that is vented through a closed-vent system to a control device

If I choose to use a floating membrane cover, how do I comply with the rule?

Meet the standards in § 63.942 which are described as follows:

Design

- Design the floating membrane cover so that it floats on the liquid surface during normal operations forming a continuous barrier over the entire surface area of the liquid. There must be no visible cracks, holes, gaps, or other open spaces between the cover section seams or between the interface of the cover edge and its foundation mountings.

- There are two types of materials that can be used for the cover construction. They are:

1. A high density polyethylene (HDPE) with a thickness of no less than 2.5 mm.

or

2. A material or composite of materials which have organic permeability properties equivalent to (HDPE), and will maintain its integrity for its intended service life.

- All openings are to be equipped with a closure device. The rule does allow for an emergency cover drain for the removal of stormwater so long as it is equipped with either a slotted membrane fabric cover which covers at least 90 percent of the opening, or a flexible fabric sleeve seal. Closure devices are to be made of materials so as to minimize exposure of the regulated material to the atmosphere.

Operation

- The floating membrane cover must float on the liquid, and any closure device must be maintained in the closed position with the exception of the following times:

  1. Accessing the separator for performing routing inspection, maintenance, or other activity required for normal operations.
  2. Removing accumulated sludge from the bottom of the separator.
  3. Opening of a safety device to avoid an unsafe condition.

- Spring-loaded pressure-vacuum relief valves, conservation valves, or any other similar type of pressure relief device may vent to the atmosphere during normal operations in order to maintain the vapor headspace underneath the cover within the design cover specifications. At all other times, these devices must be maintained so as to operate with no detectable organic emissions.

Inspection/Monitoring

- Check for defects that could result in air emissions by visually inspecting the cover and its closure devices. Defects include: visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices. Make certain that you maintain all of the required records for every inspection conducted which must include the following:

1. Surface impoundment ID number (or other unique identifier)
2. The date of the inspection
3. For each defect record: The location of the defect, the date of detection, and corrective action taken to repair the defect.

- Perform the initial inspection following installation of the membrane cover and thereafter at least once every calendar year, unless you determine that the inspection would expose a worker to dangerous, hazardous, or otherwise unsafe conditions. If this is the case, you must maintain documentation which designates the equipment as "unsafe" and explains why the equipment is unsafe. You must also implement a written plan to inspect the equipment as frequently as is practicable.

- Any defect must be repaired within 45 calender days of detection with the first effort at repair within 5 calender days of detection. If you determine that a separator must be emptied or taken out of service to perform the repair and no alternative separator capacity is available, then repair may be delayed until the next time the material generating unit stops operation and must be completed before the generating unit resumes operation. Under this circumstance, you must record the reason for the delay and the date the completion of the repair is expected.

For General Recordkeeping requirements, see Chapter 14.

- Be certain to also maintain any records required in the General Recordkeeping requirements of this document.

If I choose to use a cover vented to a control device, how do I comply with the rule?

If you choose to use a control device, be sure to also see the chapters on closed-vent systems and control devices (Chapters 11 and 12).

Meet the standards in § 63.943 which are described as follows:

Design

- Use a cover which is designed to form a continuous barrier over the entire surface area of the liquid in the separator. Openings not vented to a control device are to be equipped with a closure device. The cover and the closure devices are to be constructed of suitable materials so as to minimize the exposure of the off-site

material to the atmosphere.

- If the pressure in the vapor headspace is less than atmospheric pressure then there must be no visible cracks, holes, gaps or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

- If the pressure in the vapor headspace is greater than atmospheric pressure, then the closure device is to operate with no detectable organic emissions.

Operation

- Closure devices are to be maintained in a closed position and the vapor headspace underneath the cover is to be vented to a control device with the exception of the following times:

  1. Accessing the separator for performing routine inspection, maintenance, or other activities needed for normal operation.
  2. Removing accumulated sludge or other residues from the bottom of the separator.
  3. Opening of a safety device to avoid an unsafe condition.

Inspection/Monitoring

- Check for defects that could result in air emissions by visually inspecting the cover and its closure devices. Defects include: visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices. Make certain that you maintain all of the required records for every inspection conducted which must include the following.

  1. Surface container ID number (or other unique identifier)
  2. The date of the inspection
  3. For each defect record: The location of the defect, the date of detection, and corrective action taken to

repair the defect.

- Perform the initial inspection following installation of the cover and thereafter at least once every calendar year, unless, you determine that the inspection would expose a worker to dangerous, hazardous, or otherwise unsafe conditions. If this is the case, you must maintain documentation which designates the equipment as "unsafe" and explains why the equipment is unsafe. You must also implement a written plan to inspect the equipment as frequently as is practicable.

- Any defect must be repaired within 45 calender days of detection with the first effort at repair within 5 calender days of detection. If you determine that a separator must be emptied or taken out of service to perform the repair and no alternative separator capacity is available, then repair may be delayed until the next time the material generating unit stops operation and must be completed before the generating unit resumes operation. Under this circumstance, you must record the reason for the delay and the date the completion of the repair is expected.

General Recordkeeping requirements can be found in Chapter 14.

- Be certain to also maintain any records specified in the General Recordkeeping requirements of this document.

Table 6.1. Standards: Surface Impoundments

Question No.	Compliance Requirement	
1.	Control air emissions from each surface impoundment by using one of the following *Check one of the following:* ❑ A floating membrane cover. ❑ A cover that is vented through a closed-vent system to a control device, which meets the standards in § 63.693.	*Each option must comply with the applicable provisions in 40 CFR 63 subpart QQ–National Emissions Standards for Surface Impoundments.*

Chapter 7 - Container Air Emission Control, Inspection, and Monitoring Requirements

Light material service *means that a container is used to manage material where the vapor pressure of one or more organic constituents is greater than .3 Kpa at 20 ° C and the total concentration of the pure organic constituents having such vapor pressure is equal to or greater than 20 percent by weight of the off-site material.*

See Table 7.1 for a walk-through of the standards for containers.

What are the air emission control, inspection, and monitoring requirements for containers?

- Use the required control level (Level 1, 2, or 3) as determined by container size, organic content of the off-site material, and how the container is used.
- There are no controls required by this rule for containers ≤ 0.1 m^3 (≈ 26 gal)
- Use Level 1 controls per 40 CFR 63, subpart PP for containers ≤ 0.46 m^3 (≈ 119 gal), and for containers > 0.46 m^3 not in "light material service."
- Use Level 2 controls per 40 CFR 63, subpart PP for containers > 0.46 m^3 in "light material service."
- Use Level 3 controls per 40 CFR 63, subpart PP for containers > 0.1 m^3 used in a waste stabilization process.
- The rule does allow you to use more stringent air emission controls. For example, if you are required to use Level 1 controls you may instead control air emissions by using Level 2 or Level 3 controls. If you are required to use Level 2 controls, you may use Level 3 controls instead.

If I have a container using Level 1 controls, how do I comply with the rule?

Container Level 1 control standards can be found in § 63.922.

There are three types of containers that can be used to meet Level 1 controls. They are as follows:

1. A container that meets the applicable U.S. Department of Transportation regulations on packaging hazardous material for transportation.
2. A container equipped with a cover and closure devices forming a continuous barrier over the container.
3. An open-top container with an organic vapor-suppressing barrier placed on or over the regulated material so that

no material is exposed to the atmosphere.

Design

- The container and its closure devices are to be made of suitable materials so as to minimize exposure of the material to the atmosphere.

Operation

- You must install all covers and closure devices for the container and maintain each closure device in the closed position any time material is being kept in the container.

- Covers and closure devices may be opened for the following occasions:

  1. **Adding material**. All closure devices and covers are to be closed upon completion of the fill if the fill is a continuous process. For batch process, covers and closure devices are to be closed at the end of each batch fill any time there is a 15 minute interval between batches, the person performing the fill leaves the immediate vicinity, or there is a shutdown in the generating facility.
  2. **Removing material**. Empty containers may be left open to the atmosphere. If the container is not completely emptied, and there will be a 15 minute interval before any more material is removed, or the person performing the removal leaves the vicinity, then the cover and closure devices must be maintained in the closed position.
  3. **Access**. Access is allowed for routine maintenance.
  4. **Maintain Internal Pressure**. Pressure may be maintained in accordance with the container design specifications by opening a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief valve. At all other times these valves or vents are to remain closed.
  5. **Safety**. A safety device may be opened to avoid an unsafe condition.

Inspection/Monitoring

- Any time a container which is not emptied arrives at a facility, you must visually inspect it within 24 hours of receiving the container. Check for cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. This inspection must be completed on or before the time the container is accepted at the facility.

- If you have an container at your facility which has remained unopened for one year or more, then the container, its cover, and its closure devices are to be inspected initially and at least once every 12 months. Check for cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position.

- The first attempt to repair any defect must be made within 24 hours of detecting the defect and repair is to be completed no later than 5 calendar days after detection. If this time schedule cannot be met, then the container is to be emptied and taken out of service.

- Be certain to maintain any records required in the General Recordkeeping requirements of this document.

For General Recordkeeping requirements, see Chapter 14.

Container Level 2 control standards can be found in § 63.923.

If I have a container using Level 2 controls, how do I comply with the rule?

There are three types of containers that can be used to meet the Level 2 controls. They are as follows:

1. A container that meets the applicable U.S. Department of Transportation regulations on packaging hazardous material for transportation.
2. A container that has been demonstrated to operate with no detectable organic emissions.
3. A container that has been demonstrated to be vapor-tight using Method 27.

Handling of Material

- Transfer of material into or out of a container must be done in a manner so as to minimize exposure of the

material to the atmosphere.

Operation

- You must install all covers and closure devices for the container and maintain each closure device in the closed position any time material is being kept in the container.

- Covers and closure devices may be opened for the following occasions.

  1. **Adding material**. All closure devices and covers are to be closed upon completion of the fill if the fill is a continuous process. For batch process, covers and closure devices are to be closed at the end of each batch fill any time there is a 15 minute interval between batches, the person performing the fill leaves the immediate vicinity, or there is a shutdown in the generating facility.
  2. **Removing material**. Empty containers may be left open to the atmosphere. If the container is not completely emptied, and there will be a 15 minute interval before any more material is removed, or the person performing the removal leaves the vicinity, then the cover and closure devices must be maintained in the closed position.
  3. **Access**. Access is allowed for routine maintenance.
  4. **Maintain Internal Pressure**. Pressure may be maintained in accordance with the container design specifications by opening a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief valve. At all other times these valves or vents are to remain closed.
  5. **Safety.** A safety device may be opened to avoid an unsafe condition.

Inspection/Monitoring

- Any time a container which is not emptied arrives at a facility, you must visually inspect it within 24 hours of receiving the container. Check for cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. This inspection must be completed on or before the time the container is accepted at the facility.

- If you have a container at your facility which has remained unopened for one year or more, then the container, its cover and closure devices are to be inspected initially and at least once every 12 months. Check for cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position.

- The first attempt to repair any defect must be made within 24 hours of detecting the defect and repair is to be completed no later than five calendar days after detection. If this time schedule cannot be met, then the container is to be emptied and taken out of service.

- Be certain to maintain any records required in the General Recordkeeping requirements of this document.

Container Level 3 control standards can be found in § 63.924.

If I have a container using Level 3 controls, how do I comply with the rule?

You have two options for meeting the Level 3 controls. They are as follows:

1. A container that is vented directly through a closed-vent system to a control device.

or

2. A container that is vented inside an enclose which is exhausted through a closed-vent system to a control device.

If you choose to use a control device, be sure to also see the chapters on closed-vent systems and control devices (Chapters 11 and 12).

<u>A container vented directly through a closed-vent system to a control device</u>

- See the section on closed-vent systems and the section on control devices for the appropriate Design, Operating, and Inspection and Monitoring requirements.

<u>A container vented inside an enclosure through a closed-vent system to a control device</u>

Design

- The container is to be located inside an enclosure which meets the criteria for a total permanent enclosure. The

enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or to direct airflow into the enclosure.

- The enclosure is to be vented through a closed-vent system to a control device.

Inspection/Monitoring

- See the section on closed-vent systems and the section on control devices for the Inspection/Monitoring requirements.

For General Recordkeeping requirements see Chapter 14.

- Maintain records of the most recent set of calculations and measurements to verify that your enclosure meets the criteria specified in "Procedure T–Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B. Be certain to also maintain any general records required which are explained in the General Recordkeeping section of this document.

Table 6.1. Standards: Containers

Question No.	Compliance Requirement	
1.	Does the container have a design capacity greater than 0.1 m^3?	*Yes, go to question 2* *No, STOP, these standards do not apply to the container.*
2.	Is the container used for a waste stabilization process?	*Yes, go to question 9* *No, go to question 3*
3.	Does the container have a design capacity greater than 0.1 m^3 and less than or equal to 0.46 m^3?	*Yes, go to question 4* *No, go to question 5*
4.	Control air emissions in accordance with the following requirements: ❑ Control air emissions in accordance with the standards for Container Level 1 controls. ❑ Alternatively, you may choose to control air emissions in accordance with Container Level 2 or Container Level 3 standards.	*Container Level 1, 2, and 3 controls are found in 40 CFR 63 subpart PP–National Emission Standards for Containers.*
5.	Does the container have a design capacity greater than 0.46 m^3?	*Yes, go to question 6* *No, go to question 2 (If you've already answered question 2, then you are done with this section)*
6.	Is the container in light-material service as defined in § 63.681?	*Yes, go to question 8* *No, go to question 7*
7.	Control air emissions in accordance with the following requirements: ❑ Control air emissions in accordance with the standards for Container Level 1 controls. ❑ Alternatively, you may choose to control air emissions in accordance with Container Level 2 or Container Level 3 standards.	*Container Level 1, 2, and 3 controls are found in 40 CFR 63 subpart PP–National Emission Standards for Containers.*

Table 6.1. Standards: Containers

Question No.	Compliance Requirement	
8.	If you answered "yes" to question 5 and question 6 then control air emissions in accordance with the following requirements: ❑ Control air emissions in accordance with the standards for Container Level 2 controls. ❑ Alternatively, you may choose to control air emissions in accordance with Container Level 3 standards.	*Container Level 2 and 3 controls are found in 40 CFR 63 subpart PP–National Emission Standards for Containers.*
9.	If the container has a design capacity greater than 0.1 m^3 and is used for treatment of off-site material by a waste stabilization process, control air emissions in accordance with the standards for Container Level 3 controls.	*Container Level 3 controls are found in 40 CFR 63 subpart PP–National Emission Standards for Containers.*

Chapter 8 - Transfer System Air Emission Control, Inspection, and Monitoring Requirements

See Table 8.1 for a walk-through of the standards for transfer systems.

What are the air emission control, inspection, and monitoring requirements for transfer systems?

The requirements depend on the type of transfer system you use. If...

...you use an individual drain system - use air emission controls per 40 CFR 63, subpart RR.

...you use any other type of transfer system - use air emission controls per § 63.689(c).

If I use an individual drain system subject to subpart RR, how do I comply with the rule?

To comply with subpart RR you must use one or a combination of the following to control air emissions from your individual drain system:

1. Covers, water seals, and other air emission control equipment. The standards for these items are discussed later in this chapter.
2. Hard-piping.
3. Venting of the individual drain system through a closed-vent system to a control device. The internal pressure in the vapor headspace is to be kept below atmospheric pressure when the control device is operating.

Design

Your individual drain system must be designed so that it keeps the organic vapors, which come from the regulated material, from entering into any other individual drain system that is not controlled for air emissions in accordance with subparts RR and DD. There are also several specific standards for each part of the drain system. Standards exist for the following:

1. Drains
2. Junction Boxes
3. Sewer Lines

Drains

- There are two options in controlling air emissions from drains:

  1. Use a water seal which either has the outlet to the pipe discharging the regulated material extending below the liquid surface of the water seal. **OR** Install a flexible shield or other device which restricts wind motion across the open space between the outlet of the pipe discharging the regulated material and the drain.

or

  2. Use a closure device which is designed so that it has no visible cracks, holes, gaps, or other open spaces between the perimeter of the drain opening and the closure device when it is secured in the closed position.

Junction Boxes

- The junction box is to be equipped with a closure device. The closure device must have no visible cracks, holes, gaps, or other open spaces neither in the closure device nor between the perimeter of the junction box opening and the closure device when the closure device is secured in the closed position.

- If a junction box is vented, it must be vented through a closed-vent system to a control device. A junction box may vent to the atmosphere if **all** of the following conditions are met:

  1. The junction box is filled and emptied by gravity flow (no pump) or is operated with no more than slight fluctuations in the liquid level.
  2. The vent pipe installed on the junction box is at least 90 centimeters in length and no greater than 10.2 cm in diameter.
  3. Water seals are installed at the liquid entrance(s) or exit from the junction box. (You may need to demonstrate, upon request from EPA, that the junction box water seal is properly designed and restricts ventilation).

If you choose to use a control device, be sure to also see the chapters on closed-vent systems and control devices (Chapters 11 and 12).

Sewage Line

- Each sewer line is not to open to the atmosphere, and must be covered or closed so that there are no visible cracks, holes, gaps, or other open spaces in the sewer line joints, seals, or other emission interfaces.

Operation

- Each closure device is to be maintained in the closed position at any time there is regulated material in the system. (Closure devices may be opened to facilitate sampling, removal of material, equipment inspection, maintenance, or repair.)

- The liquid in each water seal is to be maintained at the appropriate level (see "Drains" section on page 8-2 for the appropriate liquid level for water seals).

- If you are venting to a control device, you must also comply with the standards for closed-vent systems and control devices in subpart DD. (See Chapter 11 on closed-vent systems and Chapter 12 on control devices for guidance on these standards).

Inspection/Monitoring

- Inspect all of the following initially and thereafter at least once every year.

  1. **Drain.** If a water seal is used, inspect it to ensure that appropriate liquid levels are being maintained. If a closure device is being used, visually inspect the drain to ensure that there are no defects.
  2. **Junction Box.** Visually inspect each junction box to ensure that the closure devices are in place and that there are no defects.
  3. **Sewer Line.** Visually inspect the unburied portion of the sewer line to verify that all closure devices are in place and that there are no defects.

- The first attempt at repairing any defect must be made no later than five calendar days after detection. Repairs must be completed no later than 15 calendar days after detection. If you determine that the repair of any defect

would require the emptying or temporary removal of service of the individual drain system you may delay repair until the next time the process unit or unit that is generating the regulated material stops operation. The repairs must be completed, however, before the process unit resumes operation.

If I use any other type of transfer system subject to § 63.689(c), how do I comply with the rule?

For any transfer system other than an individual drain system you have three options to control air emissions. They are:

1. A transfer system that uses covers
2. A transfer system that consist of continuous hard piping
3. A transfer system that is enclosed and vented through a closed-vent system to a control device

If I choose to use a transfer system using covers, how do I comply with the rule?

Meet the standards in § 63.689(d) which are described as follows:

Design

- The cover and its closure devices must form a continuous barrier over the off-site material as it is conveyed by the transfer system. The cover and its closure devices must be made of suitable material so as to minimize exposure of the off-site material to the atmosphere. Inlet and Outlet openings are to be of a minimum size.

- There must be no visible cracks, holes, gaps, or other open spaces between the cover section joints or between the interface of the cover edge and its mounting.

- All opening (with the exception of the inlet and outlet openings) must be covered with closure devices. There must be no visible cracks, holes, gaps, or other open spaces between the perimeter of the opening and the closure devices.

Operation

- Each closure device must be kept in the closed position at any time off-site material is in the transfer system. Closure devices may, however, be opened when off-site material is in the system under the following circumstances:

  1. Routine inspection, maintenance, repair, or other activities needed for normal operation.
  2. A safety device may be opened in order to avoid an unsafe condition.

Inspection/Monitoring

- Check for defects, which could result in air emissions, by visually inspecting the cover and its closure devices. Defects include visible cracks, holes, or gaps in the cover sections or between the cover and its mounting; broken cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

- Perform an initial inspection following installation of the cover; thereafter, inspections must be performed at least once every calendar year unless you determine that the inspection would expose a worker to dangerous, hazardous, or otherwise unsafe conditions. If this is the case, you must maintain documentation which designates the equipment as "unsafe" and explains why the equipment is unsafe. You must also implement a written plan to inspect the equipment as frequently as is practicable.

- The first attempt at repairing any defect must be made no later than five calendar days after detection. Repairs must be completed no later than 45 calendar days after detection. If you determine that the repair of any defect would require the emptying or temporary removal of service of the transfer system you may delay repair until the next time the process unit or unit that is generating the regulated material stops operation. The repairs must be completed, however, before the process unit resumes operation.

*Be certain to maintain a record of any defect, including the date detected, description of the defect, and the date of repair.

If I choose to use hard piping, how do I comply with the rule?

Meet the standards in § 63.689(c)(2) which are described as follows:

Design/Operation/Inspection/Monitoring

- All joints or seams between the pipe sections are to be permanently or semi-permanently sealed.
- Be certain to also maintain any records required by the General Recordkeeping requirements.

General Recordkeeping requirements can be found in Chapter 14.

If I choose to use a transfer system that is enclosed and vented through a closed-vent system to a control device, how do I comply with the rule?

Design/Operation/Inspection/Monitoring

- Design the transfer system so that the internal pressure in the vapor headspace in the enclosure is maintained at a level less than atmospheric pressure when the control device is operating.
- Be certain that you meet the requirements for closed-vent systems and control devices including design, operation, inspection/monitoring, recordkeeping, and reporting.

Table 8.1. Standards: Transfer Systems

Question No.	Compliance Requirement	
1.	Is the transfer system an individual drain system?	*Yes, go to question 2* *No, go to question 3*
2.	Control air emissions in accordance with 40 CFR 63 subpart RR–National Emission Standards for Individual Drain Systems.	*If you meet these requirements, you are done with this section.*
3.	Use one of the following transfer systems: *Check one of the following*: ❑ A transfer system that uses covers in accordance with § 63.689(d). ❑ A transfer system that consists of continuous hard-piping, will all joints or seams between the pipe sections being permanently or semi-permanently sealed. ❑ A transfer system that is enclosed and vented through a closed-vent system to a control device. The transfer system must be operated so that the internal pressure in the vapor headspace in the enclosure is maintained at a level less than atmospheric pressure when the control device is operating, and the closed-vent system and control device meet the requirements of § 63.693.	*If the transfer system uses covers then go to question 4. If not, then you are done with this section.*
4.	If a transfer system uses covers, then you must meet the following requirements: *Check all of the following*: ❑ The cover and its closure devices must form a continuous barrier over the entire surface area of the off-site material as it is conveyed by the transfer system.	*There may be openings in the inlet/outlet so long as they are of a minimal size for practical operation.*

Table 8.1. Standards: Transfer Systems

Question No.	Compliance Requirement	
4. (continued)	❑ There must be no cracks, holes, gaps or other open spaces between cover section joints or between the interface of the cover edge and its mounting.	*Factors to consider when selecting material include: organic vapor permeability; the effect of contact with vapors; exposure to wind, moisture, and sunlight; and the operating systems on which the cover is installed.*
	❑ There must be no visible cracks, holes, gaps, or other open spaces when the closure device is secured in the closed position.	
	❑ The cover and its closure devices must be made of material that will minimize exposure of the off-site material to the atmosphere.	
	❑ Whenever an off-site material is in the transfer system, the cover shall be installed with the closure device secure in the closed position.	

Chapter 9 - Process Vent Air Emission Control, Inspection, and Monitoring Requirements

What are the air emission control, inspection, and monitoring requirements for process vents?

- Vent through a closed-vent system to ≥95% control device.

Alternatively.....

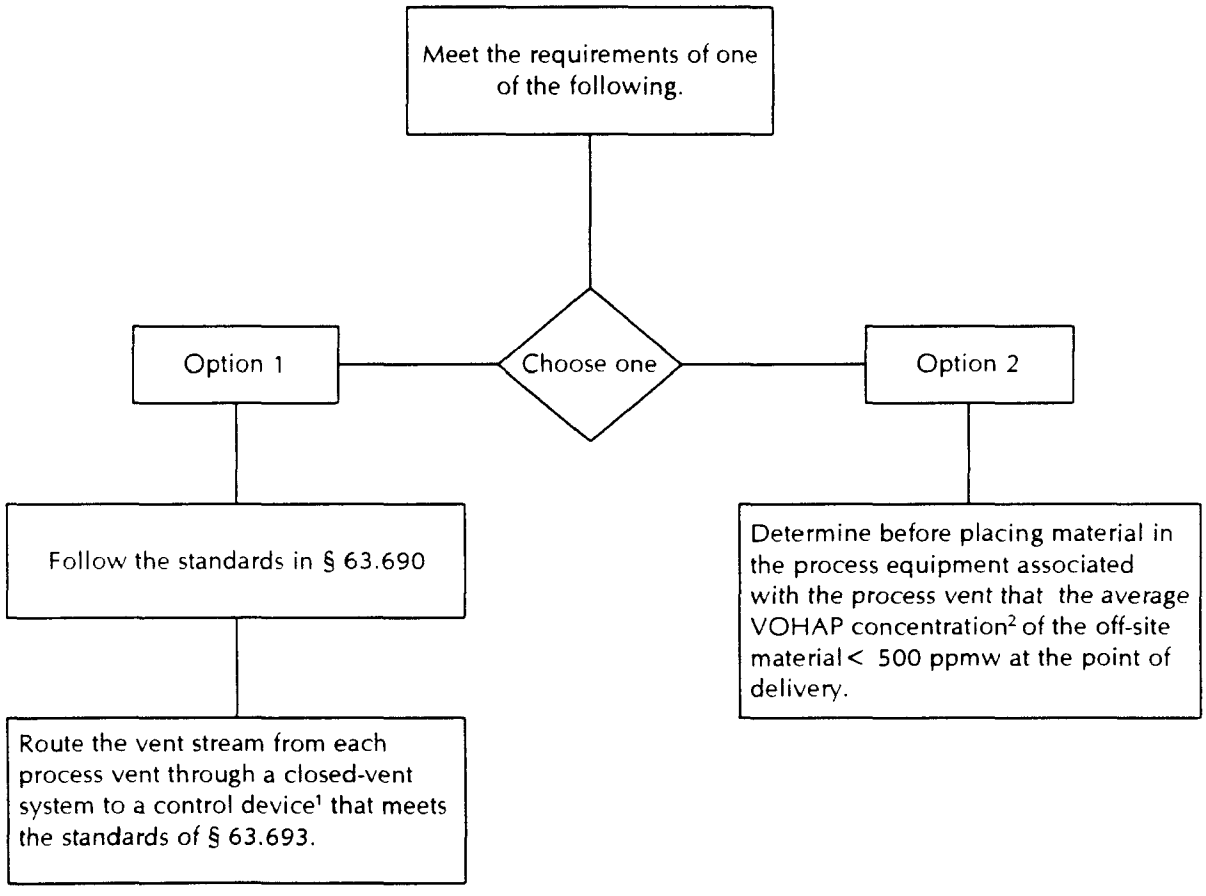
- You can determine, before placing the material in the process equipment associated with the process vent, that the average VOHAP concentration of the off-site material is less than 500 parts per million by weight at the point of delivery.

- For process vent requirements see Table 9.1.

Table 9.1

Off-Site Waste and Recovery Operations NESHAP Compliance Options: Process Vents

If a process vent is part of an affected source, two primary regulatory options exist. The following provides a condensed listing of the compliance options and requirements that are available.



1. A primary condenser is not considered a control device; however, a secondary condenser or other organic recovery device that is operated downstream of the primary condenser is considered a control device.
2. Perform the initial determination of the average VOHAP concentration as specified in § 63.694(b). Thereafter review and update this determination at least once every calendar year.

Chapter 10 - Equipment Leak Air Emission Control, Inspection, and Monitoring Requirements

What are the air emission control, inspection, and monitoring requirements for equipment leaks?

- These requirements apply to leaks from equipment components (e.g., pumps and valves) that contain or contact "off-site material" having an organic HAP concentration ≥ 10%.

- You must implement a leak detection and repair (LDAR) program and meet the applicable equipment standards in accordance with either:

  - Fugitive Emission Sources NESHAP under 40 CFR 61 subpart V

  or

  - Hazardous Organic NESHAP (HON) under 40 CFR 63 subpart H

Chapter 11 - Closed-Vent System Air Emission Control, Inspection, and Monitoring Requirements

What are the air emission control, inspection, and monitoring requirements for closed-vent systems?

There are two types of closed-vent systems you can use to convey a vent stream to a control device. They are:

1. A closed-vent system designed to operate with no detectable organic emissions
2. A closed-vent system designed to operate at a pressure below atmospheric pressure

If I use a closed-vent system designed to operate with no detectable organic emissions, how do I comply with the rule?

Meet the standards in § 63.683(c)(1)(i) which are described as follows:

Inspection/Monitoring

- At initial startup, monitor the closed-vent system components and connections by using the procedures in § 63.694(k) (method 10 in Chapter 13 of this document) to demonstrate that the closed-vent system operates with no detectable organic emissions.

- After initial startup, visually inspect the closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed at least once a year to check for defects that could result in air emissions. Use the procedures specified in § 63.694(k) (method 10 in Chapter 13 of this document) to demonstrate that the system operated with no detectable organic emission following any time a component is repaired or replaced or a connection is unsealed.

- All other closed-vent system components or connections other than those specified in the previous paragraph are to be monitored at least once per year using the procedures specified in § 63.694(k) (method 10 in Chapter 13 of this document) to show that components

or connections operate with no detectable organic emissions.

- Make the first attempt to repair any defect detected no later than 5 calendar days after detection, and the repair must be completed no later than 45 days after detection. If repair is either infeasible without shutting down the process or would result in more emissions than by delaying the repair until the process could be stopped, then repair may be delayed beyond the 45 day limit so long as repair is completed before the process resumes operation.

- Be certain to also maintain any records required in the Recordkeeping section of the rule. Guidance for these requirements is available in Chapter 14.

If you use a closed-vent system designed to operate at or below atmospheric pressure, you must install a pressure gauge to monitor the pressure in the closed-vent system. You use this gauge to verify that the pressure in the system is at or below atmospheric pressure.

If I choose to use a closed-vent systems designed to operate at a pressure at or below atmospheric pressure, how do I comply with the rule?

Meet the standards in § 63.683(c)(1)(ii) which are described as follows:

Inspection/Monitoring

- Check for defects in the closed-vent system that could result in air emissions by visually inspecting the system. Defects include: visible cracks, holes, or gaps in the ductwork or piping; loose connections; or broken or missing caps on other closure devices.

- Perform an initial inspection following installation of the closed-vent system; thereafter, inspections must be performed at least once every calendar year unless you determine that the inspection would expose a worker to dangerous, hazardous, or otherwise unsafe conditions. If this is the case, you must maintain documentation which designates the equipment as "unsafe" and explains why the equipment is unsafe. You must also implement a written plan to inspect the equipment as frequently as is practicable.

- Make the first attempt to repair any defect detected no later than 5 calendar days after detection, and the repair

must be completed no later than 45 days after detection. If repair is either infeasible without shutting down the process or would result in more emissions than by delaying the repair until the process could be stopped, then repair may be delayed beyond the 45-day limit when the process can be stopped so long as repair is completed before the process resumes operation.

- Be certain to also maintain any records required in the Recordkeeping section of the rule. Guidance for these requirements is available in Chapter 14.

If I use a bypass device, what requirements must I meet?

If a closed-vent system includes a bypass device that could be used to divert a vent stream to the atmosphere at a point upstream of the control device inlet, then it must be equipped with either a **flow indicator, or** a **seal or locking device**. Low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, or pressure relief valves needed for safety reasons are exempt from this requirement.

Flow Indicator

- The flow indicator is to be installed at the entrance to the bypass line. It must indicate a reading at least once every 15 minutes. You must maintain records of the following:

  1. Hourly records of whether the flow indicator was operating, and whether flow was detected at any time during that hour.
  2. Records of all periods when the flow is detected or the flow indicator is not operating.

Seal or Locking Device

- The bypass line valve must be secured in the non-diverting position with a car-seal or lock-and-key type configuration. The mechanism which controls the bypass device must not be able to be moved to the "diverting" position without either breaking the seal or removing the lock. You must inspect the seal or closure mechanism at least once every month to ensure that the bypass line valve is maintained in the non-diverting position.

Chapter 12 - Control Device Air Emission Control, Inspection, and Monitoring Requirements

What are the air emission control, inspection, and monitoring requirements for control devices?

There are five options for controlling air emissions from off-site material operations. They are:

1. Carbon Adsorption Systems
2. Condensers
3. Vapor Incinerators
4. Boilers and Process Heaters
5. Flares

The requirements for these five control device types will be explained in this chapter.

What are the requirements for a carbon adsorption system?

Requirements

- Recover 95 percent or more of the Total Organic Compounds (TOC) contained in the vent stream entering the system.

or

- Recover 95 percent or more, on a weight basis, of the total HAP listed in Table 1 of subpart DD.

Compliance Demonstration

- You may choose to conduct a performance test to demonstrate compliance. If you do, follow the requirements of § 63.694(l) (method 11 of Chapter 13).

or

- You may choose to perform a design analysis to demonstrate compliance. If you do, follow the requirements of § 63.693(d)(2)(ii)(A) or (B).

Monitoring

- You must use one of the following types of monitoring systems for a carbon adsorption system:

  1. For regenerative type systems you can use a continuous parameter monitoring system to measure and record stream mass flow or volumetric flow during each carbon bed regeneration cycle. It must have an accuracy of ± 10 percent along with a continuous parameter monitoring system to measure and record average carbon bed temperature during the carbon bed steaming cycle and the actual carbon bed temperature after regeneration within 15 minutes of completing the cooling cycle. It must have an accuracy of ±5 degrees Celsius or ± 1 percent of the temperature being measured.
  2. A continuous monitoring system (CMS) to measure and record the daily average concentration level of organic compounds in the exhaust gas stream from the control device. It must have an accuracy of ±1 percent.
  3. A CMS that measures other alternative operating parameters upon approval from the administrator.

How do I manage the carbon from my carbon adsorption system?

- Replace Carbon on a regular, predetermined time schedule that is not longer than the carbon service life.

- Spent carbon must be either regenerated, reactivated, or burned in one of the following units:

  1. Thermal treatment unit (need permit under 40 CFR part 270 implementing 40 CFR part 264 subpart X).
  2. Regenerated or reactivated in a thermal treatment unit equipped with and operating with air emission controls in accordance with subpart DD.
  3. Regenerated or reactivated in a thermal treatment unit equipped with and operating with air emission controls in accordance with another subpart in 40 CFR part 61 or part 63.
  4. Burned in a hazardous waste incinerator (need permit under 40 CFR part 270 implementing 40 CFR part 264 subpart O).

5. Burned in a hazardous waste incinerator which you design and operate in accordance with the interim status requirements of 40 CFR part 265 subpart O.
6. Burned in a boiler or industrial furnace (need permit under 40 CFR part 270 implementing 40 CFR part 266 subpart H).
7. Burned in a boiler or industrial furnace which you design and operate in accordance with 40 CFR part 266 subpart H.

What are the requirements for a condenser?

Requirements

- Recover 95 percent or more of the Total Organic Compounds (TOC) contained in the vent stream entering the system.

or

- Recover 95 percent or more, on a weight basis, of the total HAP listed in Table 1 of subpart DD.

Compliance Demonstration

- You may choose to conduct a performance test to demonstrate compliance. If you do, follow the requirements of § 63.694(l) (method 11 of Chapter 13).

or

- You may choose to perform a design analysis to demonstrate compliance. If you do, follow the requirements of § 63.693(e)(2)(ii).

Monitoring

- You must choose one of the following types of monitoring systems for a condenser control device:

  1. A continuous parameter monitoring system to measure and record the daily average temperature of the exhaust gases from the control device. Accuracy must be ± 1 percent of the temperature being measured or ± 5 degrees Celsius.
  2. A continuous monitoring system (CMS) to measure and record the daily average concentration level of

organic compounds in the exhaust gas stream from the control device. It must have an accuracy of ± 1 percent.

3. A CMS that measures other alternative operating parameters upon approval from the administrator.

What are the requirements for a vapor incinerator?

Requirements

- Destroy the total organic compounds (TOC) by 95 percent or more, on a weight basis; or achieve a total incinerator outlet concentration, for the TOC, of less than 20 parts per million by volume (ppmv) on a dry basis corrected to 3 percent oxygen.

or

- Destroy the HAP listed in Table 1 of subpart DD by 95 percent or more, on a weight basis; or achieve a total incinerator outlet concentration, for the HAP listed in Table 1, of 20 parts per million by volume (ppmv) on a dry basis corrected to 3 percent oxygen.

or

- Maintain the conditions in the vapor incinerator combustion chamber at a residence time of 0.5 seconds or longer at a temperature of 760° C or higher.

Compliance Demonstration

- You may choose to conduct a performance test to demonstrate compliance. If you do, follow the requirements of § 63.694(l) (method 11 of Chapter 13).

or

- You may choose to perform a design analysis to demonstrate compliance. If you do, follow the requirements of § 63.693(f)(2)(ii)(A) or (B).

Monitoring

- You must choose **one** of the following types of monitoring systems for a vapor incinerator control device:

  1. For a thermal vapor incinerator, you may use a continuous parameter monitoring system to measure and record the daily average temperature of the exhaust gases from the control device. Accuracy must be ± 1 percent of the temperature being measured expressed in degrees Celsius of ± 0.5° C.
  2. For a catalytic vapor incinerator, you may use a temperature monitoring device capable of monitoring temperature at two locations equipped with a continuous recorder. The first sensor must be placed as near to the catalyst bed inlet as is feasible. The second sensor must be placed as near to the catalyst bed outlet as is feasible.
  3. A continuous monitoring system (CMS) to measure and record the daily average concentration level of organic compounds in the exhaust gas stream from the control device. It must have an accuracy of ± 1 percent.
  4. A CMS that measures other alternative operating parameters upon approval from the administrator.

What are the requirements for boilers and process heaters?

Requirements

- Destroy the total organic compounds (TOC) by 95 percent or more, on a weight basis; or achieve a total incinerator outlet concentration, for the TOC, of less than 20 parts per million by volume (ppmv) on a dry basis corrected to 3 percent oxygen.

or

- Destroy the HAP listed in Table 1 of subpart DD by 95 percent or more, on a weight basis; or achieve a total incinerator outlet concentration, for the HAP listed in Table 1, of 20 parts per million by volume (ppmv) on a dry basis corrected to 3 percent oxygen.

or

- Maintain the conditions in the boiler or process heater combustion chamber at a residence time of 0.5 seconds or longer at a temperature of 760° C or higher.

or

- Introduce the vent stream with the fuel that provides the predominate heat input for the boiler or process heater. (Be certain to maintain the records which demonstrate this).

or

- Introduce the vent stream to a boiler or process heater for which you have a permit under 40 CFR 270 and complies with the requirements of 40 CFR 266 subpart H; or has certified compliance with the interim status requirements of 40 CFR part 266 subpart H. (Be certain to maintain the records that demonstrate this).

Compliance Demonstration

- You may choose to conduct a performance test to demonstrate compliance. If you do, follow the requirements of § 63.694(l) (method 11 of Chapter 13).

or

- You may choose to perform a design analysis to demonstrate compliance. If you do, follow the requirements of § 63.693(g)(2)(i)(B).

Monitoring

- You must choose **one** of the following types of monitoring systems for a boiler or process heater control device:

  1. A continuous parameter monitoring system to measure and record the daily average combustion zone temperature. Accuracy must be ± 1 percent of the temperature being measured expressed in degrees Celsius of ±0.5 degrees C.
  2. A continuous monitoring system (CMS) to measure and record the daily average concentration level of organic compounds in the exhaust gas stream from the control device. It must have an accuracy of ±1 percent.

3. A CMS that measures other alternative operating parameters upon approval from the administrator.

What are the requirements for flare control devices?

Requirements

- The flare must be designed and operated in accordance with 40 CFR 63.11(b).

Compliance Demonstration

- Perform **all** of the following:

  1. Visible emission test (as specified in 40 CFR 63.11(b)(4)).
  2. Determine the net heating value of the gas being combusted in the flare (as specified in 40 CFR 63.11(b)(6)).
  3. Determine the flare exit velocity (as specified in 40 CFR 63.11(b)(7) or (8).

- A previous compliance demonstration may be used if the following conditions are met:

  1. You used the same procedures as specified previously.
  2. No flare operating parameter or process changes have occurred since completion of the compliance demonstration which could affect the results.

Monitoring

- You must monitor the operation using a heat sensing monitoring device that continuously detects the presence of a pilot flame. You must record for each 1-hour period whether the monitor was continuously operating and whether a pilot flame was continuously present during each hour.

Are there any other general requirements that I must meet for my control device?

Inspection and monitoring requirements

- Use a continuous parameter monitoring system to measure the operating parameter or parameters specified for the control device in § 63.693(d) through § 63.693(g) as applicable to the type and design of the control device. The monitoring system must measure and continuously record either an instantaneous value at least once every 15 minutes. Calculate block average values for each 1-hour or shorter period from all measured data values recorded during each period. If the values are measured more frequently than once per minute, a single value for each minute may be used to calculate the hourly block average instead of all measured values.

- The monitoring system must be installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications or other written procedures that provide reasonable assurance that the monitoring equipment is operating properly.

- Calculate the daily average value for each monitored operating parameter using data recorded by the monitoring system. If operation of the control device is continuous, the operating day is a 24-hour period. If the control device operation is not continuous, the operating day is the total number of hours of control device operation per 24-hour period.

- Establish a minimum (or a maximum if applicable) operating parameter value for each monitored operating parameter to define the range of conditions at which the control device must be operated to continuously achieve the applicable performance requirements specified in § 63.693(b)(2). Each minimum or maximum operating parameter value must be established using **one** of the following:

  1. Performance test: establish the minimum or maximum operating parameter value based on values measured during the performance test and supplemented, as necessary, by the control device

design specifications, manufacturer recommendations, or other applicable information.

2. Design Analysis: establish the minimum or maximum operating parameter value based on the control device manufacturer recommendations or other applicable information.

How do I know if I have had an excursion?

- An excursion for a given control device is determined to have occurred when the monitoring data or lack thereof results in any one of the criteria specified below being met. When multiple operating parameters are monitored for the same control device and during the same operating day more than one of these operating parameters meets an excursion criterion specified in § 63.695(e)(4)(i) through § 63.695(e)(4)(iii), then a single excursion is determined to have occurred for the control device for that operating day. Any of the following is considered an excursion:

  1. The daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit) established for the operating parameter in accordance with the requirements of § 63.695(e)(3) of this section.

  2. The period of control device operation is 4 hours or greater in an operating day and the monitoring data are insufficient to constitute a valid hour of data for at least 75 percent of the operating hours. Monitoring data are insufficient to constitute a valid hour of data if measured values are unavailable for any of the 15-minute periods within the hour.

  3. The period of control device operation is less than four hours in an operating day and more than one of the hours during the period does not constitute a valid hour of data due to insufficient monitoring data. Monitoring data are insufficient to constitute a valid hour of data if measured values are unavailable for any of the 15-minute periods within the hour.

- For each excursion, except as provided for in § 63.695(e)(6), it will be deemed that you have failed to apply control in a manner that achieves the required operating parameter limits. Failure to achieve the required operating parameter limits is a violation of this standard.

- An excursion is not a violation of this standard under any one of the conditions specified in § 63.695(e)(6)(i) and § 63.695(e)(6)(ii) when the excursion occurs during any one of the following periods:

  1. A period of startup, shutdown, or malfunction when the affected facility is operated during such period in accordance with the facility's startup, shutdown, and malfunction plan;

  or

  2. Periods of non-operation of the unit or the process that is vented to the control device (resulting in cessation of HAP emissions, to which the monitoring applies).

- For each control device, one excused excursion is allowed per semiannual period for any reason. The initial semiannual period is the 6-month reporting period addressed by the first semiannual report submitted by the owner or operator in accordance with § 63.697(b)(4). Nothing in § 63.695(e)(1) through § 63.695(e)(6) shall be construed to allow or excuse a monitoring parameter excursion caused by any activity that violates other applicable provisions of 40 CFR Part 63 Subpart DD.

What if inspection of my equipment is dangerous?

- Subsequent inspection and monitoring of equipment may be performed at intervals longer than one year if it is determined that performing the required inspection or monitoring procedures would expose a worker to dangerous, hazardous, or otherwise unsafe condition and the facility, and complies with the requirements specified in § 63.695(f)(1) and § 63.695(f)(2) as follows:

  1. You must prepare and maintain at the facility written documentation identifying the specific air pollution control equipment designated as "unsafe to

inspect and monitor." The documentation must include, for each piece of air pollution control equipment designated as such, a written explanation of the reasons why the equipment is unsafe to inspect or monitor using the applicable procedures under this section.

2. You must also develop and implement a written plan and schedule to inspect and monitor the air pollution control equipment using the applicable procedures specified in this section during times when a worker can safely access the air pollution control equipment. The required inspections and monitoring must be performed as frequently as practicable but do not need to be performed more frequently than the periodic schedule that would be otherwise applicable to the air pollution control equipment under the provisions of this section. A copy of the written plan and schedule must be maintained at the facility.

Chapter 13 - Test Methods and Procedures

Does the rule require me to use any test methods?

There are several test methods and equations that are applicable to this rule. They are as follows:

1. Determining the average VOHAP concentration for off-site material streams at the point-of-delivery [§ 63.694(b)].

2. Determining the average VOHAP concentration for treated off-site material streams at the point-of-treatment [§ 63.694(c)].

3. Determining the treatment process VOHAP concentration limit (C_R) [§ 63.694(d)].

4. Determining the treatment process required HAP mass removal rate (RMR) [§ 63.694(e)].

5. Determining the treatment process actual HAP mass removal rate (MR) [§ 63.694(f)].

6. Determining the treatment process required HAP reduction efficiency (R) [§ 63.694(g)].

7. Determining the treatment process required HAP biodegradation efficiency (R_{bio}) [§ 63.694(h)].

8. Determining the treatment process required actual HAP mass removal rate (MR_{bio}) [§ 63.694(i)].

9. Determining the maximum organic HAP vapor pressure of the off-site material in tanks [§ 63.694(j)].

10. Determining no detectable organic emissions [§ 63.694(k)].

11. Determining closed-vent system and control device performance compliance [§ 63.694(l)].

12. Determining the process vent stream flow rate and total HAP concentration [§ 63.694(m)].

To determine the average VOHAP concentration of an off-site material stream at the point-of-delivery follow the procedures outlined in § 63.694(b)

1. Determining the average VOHAP concentration for an off-site material stream at the point-of-delivery.

1a. Determine the average VOHAP concentration for off-site material streams at the point-of-delivery using either direct measurement as specified in 1b or by knowledge as specified in 1c.

1b. Direct measurement

1. Sampling. Collect samples in a manner such that volatilization of material is minimized and the sample adequately representative for a selected method.

2. Record the averaging period (which may not exceed one year). Handle all samples (of which at least four shall be collected) in accordance with written procedures which describe how the collecting procedures comply with 1b(1) and maintain written procedures on-site in the facility operating records.

3. Analysis. Prepare and analyze each collected sample in accordance with one of the following methods.

For Methods 624 and 625, If the method is used to analyze one or more compounds that are not on the method's published list of approved compounds, the Alternative Test Procedure specified in 40 CFR 136.4 and 136.5 must be followed.

B. Method 305 in 40 CFR part 63, appendix A

C. Method 25D in 40 CFR part 60, appendix A

C. Method 624 in 40 CFR part 136, appendix A

D. Method 625 in 40 CFR part 136, appendix A. For the purpose of using this method to comply with this subpart, you must perform corrections to these compounds based on the "accuracy as recovery" using the factors in Table 7 of the method.

E. Method 1624 in 40 CFR part 136, appendix A

F. Method 1625 in 40 CFR part 136, appendix A

G. Method 8260 and 8270. As an alternative, you may use any more recent, updated version of Method 8260 or 8270 approved by the EPA. For the purpose of using Method 8260 or 8270 to comply with 40 CFR Part 63 Subpart DD, you must maintain a formal quality assurance program consistent with Section 8 of Method 8260 or 8270, and this program must include the following elements related to measuring the concentrations of volatile compounds:

1. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, and preparation steps.

2. Documentation of specific quality assurance procedures followed during sampling, sample preparation, sample introduction, and analysis.

3. Measurement of the average accuracy and precision of the specific procedures, including field duplicates and field spiking of the off-site material source before or during sampling with compounds having similar chemical characteristics to the target analytes.

H. Any other analysis methods that have been validated in accordance with the procedures specified in Section 5.1 and Section 5.3 and the corresponding calculations in Section 6.1 or Section 6.3 of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under Section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range of 0.1 to 1.30. Other sections of Method 301 are not required.

4. Calculations. Calculate the average VOHAP concentration ($\bar{C}$) on a mass-weighted basis by using the results for all samples analyzed in accordance with 1b(3) and the following equation. An owner or operator using a test method that provides species-specific chemical concentrations may adjust the measured concentrations to the corresponding concentration values which would be obtained had the off-site material samples been analyzed using Method 305. To adjust these data, the measured concentration for each individual HAP chemical species contained in the off-site material is multiplied by the appropriate species-specific adjustment factor (f_{m305}) listed in Table 1 in the rule.

$$\overline{C} = \frac{1}{Q_T} \times \sum_{i=1}^{n} \left(Q_i \times C_i\right)$$

where:

$\overline{C}$ = Average VOHAP concentration of the off-site material at the point-of-delivery on a mass-weighted basis, ppmw.

i = Individual sample "i" of the off-site material.

n = Total number of samples of the off-site material collected (at least 4) for the averaging period (not to exceed 1 year).

Q_i = Mass quantity of off-site material stream represented by C_i, kg/hr.

Q_T = Total mass quantity of off-site material during the averaging period, kg/hr.

C_i = Measured VOHAP concentration of sample "i" as determined in accordance with the requirements of § 63.694(a), ppmw.

1c. Knowledge

1. Prepare documentation that presents the basis of the knowledge.

2. If test data is used as the basis for the knowledge then document the test method, sampling protocol and means by which sampling variability and analytical variability are accounted for.

3. If species-specific chemical concentration test data is used as the basis of the knowledge then the data may be adjusted as if it had been obtained under Method 305.

4. If the Administrator and the owner or operator disagree over the VOHAP concentration gained by knowledge then direct measurement shall be used.

To determine the average VOHAP concentration of an off-site material stream at the point-of-treatment use the procedures specified in § 63.694(c).

2. Determining the average VOHAP concentration of an off-site material stream at the point-of-treatment.

2a. To determine the average VOHAP concentration of an off-site material stream at the point of treatment, samples of the off-site material stream shall be collected at the point-of-treatment in a manner such that volatilization of organics contained in the sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method. Each collected sample shall be prepared and analyzed in accordance with one of the methods listed previously in 1b and in § 63.694(b)(2)(ii)(A) through § 63.694(b)(2)(ii)(I) as applicable to the sampled off-site material for the purpose of measuring the HAP listed in Table 1 in the rule.

2b. Calculations. Calculate the average VOHAP concentration ($\overline{C}$) on a mass-weighted basis by using the results for all samples analyzed in accordance with § 63.694(c)(2) and by using the following equation. If you are using a test method that provides species-specific chemical concentrations you may adjust the measured concentrations to the corresponding concentration values which would be obtained had the off-site material samples been analyzed using Method 305. To adjust these data, the measured concentration for each individual HAP chemical species contained in the off-site material is multiplied by the appropriate species-specific adjustment factor (f_{m305}) listed in Table 1 in the rule.

$$\overline{C} = \frac{1}{Q_T} \times \sum_{i=1}^{n} (Q_i \times C_i)$$

where:

$\overline{C}$ = Average VOHAP concentration of the off-site material on a mass-weighted basis, ppmw.

i = Individual sample "i" of the off-site material.

n = Total number of samples of the off-site material collected (at least 4) for the averaging period (not to exceed 1 year).

Q_i = Mass quantity of off-site material stream represented by C_i, kg/hr.

Q_T = Total mass quantity of off-site material during the averaging period, kg/hr.

C_i = Measured VOHAP concentration of sample "i" as determined in accordance with the requirements of § 63.694(a), ppmw

To determine the VOHAP concentration limit use the procedures specified in § 63.694(d)

3. Determining the treatment process VOHAP concentration limit.

3a. Identify all off-site material streams entering the process. Prepare and analyze the average VOHAP concentration of each off-site material stream at the point-of-delivery in accordance with one of the methods listed previously in 1b and in § 63.694(b). Calculate the VOHAP concentration limit by using the results determined for each individual off-site material stream and the following equation:

$$C_R = \frac{\sum_{x=1}^{m} \left(Q_x \times \overline{C}_x\right) + \sum_{y=1}^{n} \left(Q_y \times 500 \text{ ppmw}\right)}{\sum_{x=1}^{m} Q_x + \sum_{y=1}^{n} Q_y}$$

where,

C_R = VOHAP concentration limit, ppmw

x = Individual off-site material stream "x" that has a VOHAP concentration less than 500 ppmw at the point-of-delivery

y = Individual off-site material stream "y" that has a VOHAP concentration equal to or greater than 500 ppmw at the point-of-delivery

m = Total number of "x" off-site material streams treated by process

To determine required HAP mass removal rate (RMR) use the procedures specified in § 63.694(e).

n = Total number of "y" off-site material streams treated by process

Q_x = Total mass quantity of off-site material stream "x," kg/yr

Q_y = Total mass quantity of off-site material stream "y," kg/yr

$\overline{C}_x$ = VOHAP concentration of off-site material stream "x" at the point-of-delivery, ppmw

4. Determining required HAP mass removal rate (RMR).

4a. Identify each individual stream containing HAP that enters the treatment process.

4b. Determine the average VOHAP concentration at the point-of-delivery for each stream identified in 4a using the test methods and procedures specified in § 63.694(b)

4c. For each stream identified in 4a that has an average VOHAP concentration ≥500 ppmw at the point-of-delivery, determine the average volumetric flow rate and the density of the off-site material stream at the point-of-delivery.

4d. Calculate the required HAP mass removal rate (RMR) by using the average VOHAP concentration, average volumetric flow rate, and density determined in 4c of this section for each stream and the following equation:

$$RMR = \sum_{y=1}^{n} \left[V_y \times k_y \times \frac{\left(\overline{C}_y - 500 \text{ ppmw}\right)}{10^6} \right]$$

where:

RMR = Required HAP mass removal rate, kg/hr.

y = Individual stream "y" that has a VOHAP concentration equal to or greater than 500 ppmw at the point-of-delivery as determined in § 63.694(b).

n = Total number of "y" streams treated by process.

V_y = Average volumetric flow rate of stream "y" at the point-of-delivery, m^3/hr.

k_y = Density of stream "y," kg/m^3

$\overline{C}_y$ = Average VOHAP concentration of stream "y" at the point-of-delivery as determined in § 63.694(b)(2), ppmw.

To determine actual HAP mass removal rate (MR) use the procedures specified in § 63.694(f).

Use the test methods and procedures specified in § 63.694(g)(2) through § 64.694(g)(4).

5. Determining the actual HAP mass removal rate (MR).

5a. Base the actual HAP mass removal rate (MR) on the results for a minimum of three consecutive runs, each having a sampling time of one hour.

5b. Determine the HAP mass flow entering the process (E_b) and exiting the process (E_a) using the test methods and procedures specified in paragraphs 6b through 6d.

5c. Calculate the actual HAP mass removal rate using the following equation:

$$MR = E_b - E_a$$

where:

MR = Actual HAP mass removal rate, kg/hr
E_b = HAP mass flow entering process as determined in paragraph 5b of this section, kg/hr.
E_a = HAP mass flow exiting process as determined in paragraph 5b of this section, kg/hr.

To determine the treatment process HAP reduction efficiency (R) use the procedures specified in § 63.694(g).

6. Determining the treatment process HAP reduction efficiency (R).

6a. Base the HAP reduction efficiency (R) for a treatment process on the results for a minimum of three consecutive runs.

6b. Identify each individual stream containing HAP that enters and exits the treatment process. Prepare a sampling plan for measuring the identified streams that accurately reflects the retention time of the material in the process.

6c. For each run:

1. Determine the mass quantity for each stream, identified in paragraph 6b, entering the process (Q_b) and exiting the process (Q_a).

2. Determine the average VOHAP concentration at the point-of-delivery for each stream entering the process ($\bar{C}_b$) (identified in paragraph 6b) using the test methods and

procedures specified in §63.694(b).

3. Determine the average VOHAP concentration at the point-of-treatment for each stream exiting the process ($\overline{C}_a$) (identified in 6b) using the test methods and procedures specified in § 63.694(c).

6d. Calculate the HAP mass flow entering the process (E_b) and exiting the process (E_a) using the results determined above and the following equations:

$$E_a = \frac{1}{10^6} \sum_{j=1}^{m} \left(Q_{aj} \times \overline{C}_{aj} \right)$$

$$E_b = \frac{1}{10^6} \sum_{j=1}^{m} \left(Q_{aj} \times \overline{C}_{bj} \right)$$

where:

E_b = HAP mass flow entering process, kg/hr.
E_a = HAP mass flow exiting process, kg/hr.
m = Total number of runs (at least 3)
j = Individual run "j"
Q_{bj} = Average mass quantity of material entering process during run "j", kg/hr.
Q_{aj} = Average mass quantity of material exiting process during run "j", kg/hr.
$\overline{C}_{aj}$ = Average VOHAP concentration of material exiting process during run "j" as determined in 1b, ppmw.
$\overline{C}_{bj}$ = Average VOHAP concentration of material entering process during run "j" as determined in 1b, ppmw.

6f. Calculate the HAP reduction efficiency (R) using the HAP mass removal rates determined above and the following equation:

$$R = \frac{E_b - E_a}{E_b} \times 100$$

where:

R = HAP reduction efficiency, percent.
E_b = HAP mass flow entering process as determined in § 63.694(g)(4) of this section, kg/hr.
E_a = HAP mass flow exiting process as determined in accordance with the requirements of § 63.694(g)(4) of this section, kg/hr.

To determine the HAP biodegradation efficiency (R_{bio}) use the procedures specified in § 63.694(h)

7. Determining the HAP biodegradation efficiency (R_{bio}).

7a. Determine the fraction of HAP biodegraded (F_{bio}) using one of the procedures specified in 40 CFR part 63, appendix C.

7b. Calculate the HAP biodegradation efficiency (R_{bio}) by using the following equation:

$$R_{bio} = F_{bio} \times 100$$

where:

R_{bio} = HAP biodegradation efficiency, percent.
F_{bio} = Fraction of HAP biodegraded as determined in § 63.694(h)(1).

To determine the actual HAP mass removal rate (MR_{bio}) use the procedures specified in § 63.694(i)

8. Determining the actual HAP mass removal rate (MR_{bio})

8a. Base the actual HAP mass removal rate (MR_{bio}) on the results for a minimum of three consecutive runs, each having a sampling time of one hour.

8b. Determine the HAP mass flow entering the process (E_b) using the test methods and procedures specified in 6b through 6d.

8c. Determine the fraction of HAP biodegraded (F_{bio}) using the procedure specified in 40 CFR part 63, appendix C.

8d. Calculate the actual mass removal rate by using the HAP mass flow rates and fraction of HAP biodegraded determined in 8b and 8c, respectively, and the following equation:

$$MR_{bio} = E_b \times F_{bio}$$

where:

MR_{bio} = Actual HAP mass removal rate, kg/hr.
E_b = HAP mass flow entering process, kg/hr.
F_{bio} = Fraction of HAP biodegraded.

To determine the maximum HAP vapor pressure for off-site material in a tank use the procedures specified in § 63.694(j).

9. Determining the maximum HAP vapor pressure for off-site material in a tank.

9a. Determine the maximum HAP vapor pressure of the off-site material composition managed in a tank using either direct measurement as specified in 9b or by knowledge of the off-site material as specified by 9c.

9b. Direct measurement to determine the maximum HAP vapor pressure of an off-site material.

1. Sampling. Collect a sufficient number of samples to be representative of the off-site material contained in the tank. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan, which describes the procedure by which representative samples of the off-site material is collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. Maintain a copy of the written sampling plan on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW–846 or Method 25D in 40 CFR part 60 appendix A.

2. Analysis. Any one of the following methods may be used to analyze the samples and compute the maximum HAP vapor pressure of the off-site material:

A. Method 25E in 40 CFR part 60 appendix A;

B. Methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss from External

Floating Roof Tanks,";

C. Methods obtained from standard reference texts;

D. ASTM Method 2879–83; or

E. Any other method approved by the administrator.

For examples of proper documentation see § 63.694(j)(3).

9c. Use of knowledge to determine the maximum HAP vapor pressure of the off-site material. Prepare and record documentation that presents the information used as the basis for the knowledge that the maximum HAP vapor pressure of the off-site material is less than the maximum vapor pressure limit listed in Table 3 or Table 4 of the rule for the applicable tank design capacity category.

To determine no detectable organic emission use the procedures specified in § 63.694(k).

10. Determining no detectable organic emission

10a. Conduct the test in accordance with the procedures specified in Method 21 of 40 CFR part 60, appendix A. Check each potential leak interface (i.e., a location where organic vapor leakage could occur) on the cover and associated closure devices. Potential leak interfaces that are associated with covers and closure devices include, but are not limited to: the interface of the cover and its foundation mounting; the periphery of any opening on the cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure-relief valve.

10b. Perform the test when the unit contains a material having a total organic concentration representative of the range of concentrations for the materials expected to be managed in the unit. During the test, secure the cover and closure devices in the closed position.

10c. The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the organic constituents in the material placed in the unit, not for each individual organic constituent.

10d. Calibrate the detection instrument before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A, using the following calibration gases.

1. Zero air (less than 10 ppmv hydrocarbon in air); and

2. A mixture of methane or n-hexane in air at a concentration of approximately, but less than 10,000 ppmv.

10e. You may choose to adjust or not adjust the detection instrument readings to account for the background organic concentration level. If you choose to adjust the instrument readings for the background level, the background level value must be determined according to the procedures in Method 21 of 40 CFR part 60 appendix A.

10f. Check each potential leak interface by traversing the instrument probe around the potential leak interface as close to the interface as possible, as described in Method 21. In the case when the configuration of the cover or closure device prevents a complete traverse of the interface, all accessible portions of the interface shall be sampled. In the case when the configuration of the closure device prevents any sampling at the interface and the device is equipped with an enclosed extension or horn (e.g., some pressure relief devices), place the instrument probe inlet at approximately the center of the exhaust area to the atmosphere.

10g. You must determine if a potential leak interface operates with no detectable emissions using the applicable procedure specified as follows.

1. If you choose not to adjust the detection instrument readings for the background organic concentration level, then the maximum organic concentration value measured by the detection instrument is compared directly to the applicable value for the potential leak interface as specified in 10h.

2. If you choose to adjust the detection instrument readings for the background organic concentration

level, the value of the arithmetic difference between the maximum organic concentration value measured by the instrument and the background organic concentration value as determined in 10e is compared with the applicable value for the potential leak interface as specified in 10h.

10i. A potential leak interface is determined to operate with no detectable emissions using the applicable criteria specified as follows

1. For a potential leak interface other than a seal around a shaft that passes through a cover opening, the potential leak interface is determined to operate with no detectable organic emissions if the organic concentration value determined in 10g is less than 500 ppmv.

2. For a seal around a shaft that passes through a cover opening, the potential leak interface is determined to operate with no detectable organic emissions if the organic concentration value determined in 10g is less than 10,000 ppmv.

Control device performance test procedures are found in § 63.694(l)

11. Determining closed-vent system and control device performance compliance.

11a. Use Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, for selection of the sampling sites at the inlet and outlet of the control device.

Control device percent reduction equipment.

1. To determine compliance with a control device percent reduction requirement, sampling sites shall be located at the inlet of the control device and at the outlet of the control device and as specified below.

A. The control device inlet sampling site shall be located after the final product recovery device.

B. If a vent stream is introduced with the combustion air or as auxiliary fuel into a boiler or process heater, select the location of the inlet sampling sites to ensure that the measurement of total HAP concentration or TOC concentration,

as applicable, includes all vent streams and primary and secondary fuels introduced into the boiler or process heater.

2. To determine compliance with an enclosed combustion device concentration limit, the sampling site shall be located at the outlet of the device.

11b. Determine the gas volumetric flow rate using Method 2, 2A, 2C, or 2D of 40 CFR part 60, appendix A, as appropriate.

11c. To determine compliance with the control device percent reduction requirement, use Method 18 of 40 CFR part 60, appendix A; alternatively, any other method or data that has been validated according to the applicable procedures in Method 301 in 40 CFR part 64 appendix A may be used. Use the following procedures to calculate percent reduction efficiency:

1. The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is in used, then the samples are taken at approximately equal intervals in time such as 15 minute intervals during the run.

2. Compute the mass rate of either TOC (minus methane and ethane) or total HAP (E_i and E_o, respectively) using the following equations.

$$E_i = K_2 \left(\sum_{\text{scalesyml50jscalesyml50 = scalesyml501}}^{\text{scalesym}} 150 n C_{ij} M_{ij} \right) Q_i$$

$$E_o = K_2 \left(\sum_{\text{scalessym150jscalesym150 = scalesym1501}}^{\text{scalesym}} 150 n C_{oj} M_{oj} \right) Q_o$$

where:

C_{ij}, C_{oj} = Concentration of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively, dry basis, ppmv.

E_i, E_o = Mass rate of TOC (minus methane and ethane) or total HAP at the inlet and outlet of the control device, respectively, dry basis, kg/hr.

M_{ij}, M_{oj} = Molecular weight of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively, gram/gram-mole.

Q_i, Q_o = Flow rate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meter per minute.

K_2 = Constant, 2.494×10^{-6} ($ppmv^{-1}$) (gram-mole per standard cubic meter) (kg/g) (minute/hour), where standard temperature (gram-mole per standard cubic meter) is 20° C.

A. When the TOC mass rate is calculated, sum all organic compounds (minus methane and ethane) measured by Method 18 of 40 CFR part 60, appendix A using the equation in 11c(2).

B. When the total HAP mass rate is calculated, sum only the HAP constituents using the equation in 11c(2).

3. The percent reduction in TOC (minus methane and ethane) or total HAP shall be calculated as follows:

$$R_{cd} = \frac{E_i - E_o}{E_i} \times 100$$

where:

R_{cd} = Control efficiency of control device, percent.

E_i = Mass rate of TOC (minus methane and ethane) or total HAP at the inlet to the control device as calculated under paragraph § 63.694(l)(3)(ii) [11c(2)], kg TOC/hr or kg HAP/hr.

E_0 = Mass rate of TOC (minus methane and ethane) or total HAP at the outlet to the control device as calculated under paragraph § 63.694(l)(3)(ii) [11c(2)], kg TOC/hr or kg HAP/hr.

4. If the vent stream entering a boiler or process heater is introduced with the combustion air or as a secondary fuel, determine the weight-percent reduction of total HAP or TOC (minus methane and ethane) across the device by comparing the TOC (minus methane and ethane) or total HAP in all combusted vent streams and primary and secondary fuels with the TOC (minus methane and ethane) or total HAP exiting the device, respectively.

11d. To determine compliance with the enclosed combustion device total HAP concentration limit of 40 CFR Part 63 Subpart DD, use Method 18 of 40 CFR part 60 appendix A to measure either TOC (minus methane and ethane) or total HAP. Alternatively, any other method or data that has been validated according to Method 301 in appendix A of 40 CFR 63, may be used. Use the following procedures to calculate parts per million by volume concentration, corrected to 3 percent oxygen:

1. The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the run.

2. Calculate the TOC (Total Organic Compounds) concentration or total HAP concentration according to the following procedures:

A. Compute the TOC concentration (C_{TOC}), which is the sum of the concentrations of the individual components, for each run using the following equation:

$$C_{TOC} = \sum_{i=1}^{x} \frac{\sum_{j=1}^{n} C_{ij}}{x}$$

where:

C_{TOC} = Concentration of total organic compounds minus methane and ethane, dry basis, ppmv.
C_{ji} = Concentration of sample components j of sample i, dry basis, ppmv.
n = Number of components in the sample.
x = Number of samples in the sample run.

B. Compute the total HAP concentration (C_{HAP}) according to the above equation in except that only HAP constituents shall be summed.

3. Correct the measured TOC concentration or total HAP concentration to 3 percent oxygen as follows:

Correcting to 3% Oxygen

A. Use the emission rate correction factor or excess air, integrated, sampling an analysis procedures of Method 3B of 40 CFR part 60, appendix A to determine the oxygen concentration ($\%O_{2dry}$). Collect the samples during the same time that the samples are collected for determining TOC concentration or total HAP concentration.

B. Compute the concentration corrected to 3 percent oxygen (C_c) using the following equation:

$$C_c = C_m \left(\frac{17.9}{20.9 - \%O_{2dry}} \right)$$

where:

C_c = TOC concentration or total HAP concentration corrected to 3 percent oxygen, dry basis, ppmv.

Chapter 14 - Recordkeeping, Notification and Reporting Requirements

Example forms are provided, but you don't have to use them.

What do I have to report and when?

You will need to complete several different types of reports based on the type of process(es) at your facility. Table 14.1 shows when these reports are due.

Can I get example reporting forms?

We have included example forms for all of the reports that are required in this rule. You will find the following example reports available in this chapter.

- Initial Notification Report
- Application for Approval of Construction or Reconstruction
- Notification of Compliance Status
- Semiannual Summary Report

You may use these forms for reporting, but you are not required to use them. You may want to check with your State or local air pollution control board to make sure that they do not have their own forms. If you do use the forms, first be sure that they meet any requirements that the State or local agency has.

What records must I keep?

You must keep records for 5-years (3 years can be kept onsite; 2 years can be kept offsite).

The owner or operator must comply with the recordkeeping requirements of § 63.10 of 40 CFR 63 subpart A – General Provisions which include:

- occurrence and duration of each startup, shutdown, or malfunction of operation
- actions taken during periods of startup, shutdown, or malfunction when actions are different from the procedures specified in the affected sources' startup, shutdown, and malfunction plan
- all continuous monitoring systems (CMS) calibration checks
- all adjustments and maintenance performed on CMS
- all documentation concerning the internal floating roof

What reports must I submit?

The owner or operator must comply with the reporting requirements of § 63.9 and § 63.10 of 40 CFR 63 subpart A – General Provisions which include:

- progress reports
- periodic startup, shutdown, and malfunction reports
- immediate startup, shutdown, and malfunction reports
- waiver of reporting requirements
- results of any performance tests performed under § 63.7 before and after a Title V permit has been issued
- notification to the Administrator in advance of each inspection required under § 63.695(b) through § 63.695(f), to provide the Administrator with the opportunity to have an observer present during the inspection.
- a notification of performance tests specified in § 63.7 and § 63.9(g).
- performance test reports specified in § 63.10(d)(2).
- a summary report specified in § 63.10(e)(3) shall be submitted on a semiannual basis (i.e., once every 6-month period). The summary report must include a description of all excursions as defined in § 63.695(e) of this subpart that have occurred during the 6-month reporting period. For each excursion caused when the daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit), the report must include the daily average values of the monitored parameter, the applicable operating parameter limit, and the date and duration of the period that the exceedance occurred. For each excursion caused by lack of monitoring data, the report must include the date and duration of period when the monitoring data were not collected and the reason why the data were not collected.

- all documentation concerning the external floating roof
- internal floating roof inspection records, which include tank identification number, date of inspection, any defects detected during inspections
- external floating roof inspections records which include tank identification number, date of inspection, any defects detected during inspections, seal gap inspection, any repairs made to bring the seal gap measurements to conform to specifications in § 63.695(d)
- descriptions of the planned routine maintenance that was performed in the previous 6 months and the anticipated maintenance that will be performed in the next 6 months
- records of unexpected control device malfunctions that include duration of each period during a malfunction and actions taken during period of malfunction to restore the control device to normal operation

Table 14.1–Report Due Dates

If you have...	And want to submit a....	Then submit the report before
An existing off-site material and recovery operation.	Initial Notification Report [§ 63.9(b)]	[October 20, 1999] (30 days after effective date of the rule)
	Notification of Compliance Status [§ 63.9(h)]	60 days after the compliance demonstration activity (i.e. performance test)
	Initial Semi-annual Summary Report [§ 63.697(b)(4)]	[March 20, 2000] (6 months after effective date of the rule)
	Subsequent Semi-annual Summary Reports [§ 63.697(b)(4)]	[3/20] and [9/20] of each year
A new off-site material and recovery operation	Initial Notification Report [§ 63.9(b)]	120 days after initial startup
	Notification of Compliance Status [§ 63.9(h)]	60 days after the compliance demonstration activity (i.e. performance test)
	Initial Semi-annual Summary Report [§ 63.697(b)(4)]	180 days after the Notification of Compliance Status is due
	Subsequent Semi-annual Summary Reports [§ 63.697(b)(4)]	180 days after the Initial Semi-annual Summary Report and every 180 days thereafter

Example
Initial Notification Report

This is a sample notification form that can be used by facilities at their discretion to comply with 40 CFR 63.697(a).

Applicable Rule: 40 CFR Part 63, subpart DD–National Emission Standards for Off-site material and Recovery Operations. Initial Notification is being made in accordance with § 63.697(a) and § 63.9(b).

1. Print or type the following information for each facility in which off-site material is received (§ 63.9(b)(2)(i)-(ii):

   Owner/Operator/Title_____

   Street Address_____

   City_____ State_____ Zip Code_____

   Facility Name_____

   Facility Contact/Title_____

   Facility Contact Phone Number (optional)_____

   Facility Address (if different from the owner/operator's)_____

   Street Address_____

   City_____ State_____ Zip Code_____

2. Indicate your anticipated compliance date [§ 63.9(b)(2)(iii)]:

   ❑ February 1, 2000
   ❑ Upon startup Anticipated startup date_____

3. List which affected source(s) (as defined by 40 CFR 63.680(c)) exist at your facility:

   _____

Example Initial Notification Report (Continued)

4. Briefly describe the nature, size, design and method of operation of each source or off-site material management unit, including its operating design capacity.

   _____
   _____
   _____

5. Identify each point of emission for each hazardous air pollutant, or if a definitive identification is not yet possible, a preliminary identification for each point of emission for each hazardous air pollutant. If additional lines are needed, make copies of this page [§ 63.9(b)(2)(iv)].

   Please indicate if the information below is: ❑ Actual ❑ Preliminary

Source ID	Source Location	Source Description	Operation Performed

6. My facility is a major source of Hazardous Air Pollutants (HAPs) ❑ Yes ❑ No

   NOTE: Only major sources of HAPs are regulated under this rule (§ 63.9(b)(v))

   A major source is a facility that has the potential to emit (PTE) greater than 10 tons per year of any one hazardous air pollutant (HAP) or 25 tons per year of multiple HAPs. All other sources are area sources.

End of Initial Notification Form

Example
Application for Approval of Construction or Reconstruction

Most State/local or Tribal regulatory agencies already have specific applications that you must fill out to get approval to construct or reconstruct an effected source.

You should contact your State/local or Tribal agency to determine if such forms exist. If your State/local or Tribal agency does not have existing forms, follow the requirements found in General Provisions, §63.5(d).

End of Application for Approval of Construction or Reconstruction

Example
Notification of Compliance Status

This is a sample notification form which can be used by facilities at their discretion to comply with 40 CFR 63.697(a).

Applicable Rule: 40 CFR part 63, subpart DD–National Emission Standards for Off-site material and Recovery Operations. Notification of Compliance Status is being made in accordance with § 63.697(a) and § 63.9(h). Submit this report no later than 60 days after compliance demonstration activity.

1. Print or type the following information for each facility in which off-site material is received (optional):

   Owner/Operator/Title_____

   Street Address_____

   City_____ State_____ Zip Code_____

   Facility Name_____

   Facility Contact/Title_____

   Facility Contact Phone Number (optional)_____

   Facility Address (if different from the owner/operator's)_____

   Street Address_____

   City_____ State_____ Zip Code_____

2. For off-site material management units, check one of the following means of complying with subpart DD [§ 63.683(b)]:

   - ❑ Control air emission in accordance with §§ 63.685 through 63.689 (go to question 3).
   - ❑ Remove or destroy HAP in the off-site material before placing it in the unit in accordance with §63.684 (go to question 4).
   - ❑ Determine before placing the off-site material in the unit that the average VOHAP concentration of the material is < 500 ppmw (go to question 5).

3. To control air emissions from off-site material management units, I have chosen to use the following method(s), check all that apply [§ 63.683(b)(1)(i)].

❑ Tanks [§ 63.685]
- The maximum HAP vapor pressure for the tank is _____ using method _____ from § 63.694(j).
- Is the tank used for a waste stabilization process? ❑ Yes ❑ No
- I use Tank Level _____ controls determined in Table 3 and 4 of subpart DD.
- If you use Tank Level 1 controls do you meet the requirements of 40 CFR subpart OO? ❑ Yes ❑ No
- If you use Tank Level 2 controls or if the maximum HAP vapor pressure is > 76.6 kPa then list the methods used to control air emissions and the applicable test methods used to determine compliance (i.e. Method 21 for "No detectable organic emission").

Tank used	Meets the requirements of...	Method used to determine compliance
example: Fixed roof tank with internal floating roof	*§ 63.685(e)*	*Method 21*

*If a control device is used, state the specific control device under "Methods used to determine compliance" and be sure to answer questions 7 through 10.

❑ Oil-Water, Organic-Water Separators [§ 63.686]
I use one of the following to control air emissions:
- ❑ A floating roof
- ❑ A fixed roof vented through a closed-vent system to a control device (make certain to answer questions 7 through 10)
- ❑ A pressurized separator

and
- ❑ I comply with the provisions in 40 CFR subpart VV

❑ Surface Impoundments [§ 63.687]
I use one of the following to control air emissions:
- ❑ A floating membrane cover
- ❑ A cover vented through a closed-vent system to a control device (make certain to answer questions 7 through 10)

and
- ❑ I comply with the provisions in 40 CFR subpart QQ

❑ Container [§ 63.688]
- Design capacity_____
- Is the container used in a waste stabilization process? ❑ Yes ❑ No
- Is the container used in light material service? ❑ Yes ❑ No
- I use container level_____ controls.

and

❑ I comply with 40 CFR subpart PP

❑ Transfer Systems [§ 63.689]
- Is the transfer system an individual drain system?
  - ❑ Yes and I comply with 40 CFR subpart RR
  - ❑ No and I use one of the following to control air emissions
    - ❑ A transfer system that uses covers
    - ❑ A transfer system that uses continuous hard piping
    - ❑ A transfer system that is enclosed and vented to a control device where the internal pressure in the vapor headspace is _____ and the atmospheric pressure is _____ (make certain that you answer questions 7 through 10)

4. To remove or destroy the HAP contained in a material, I use a process that achieves **one** of the following performance levels [§ 63.683(b)(1)(ii)]:

❑ VOHAP Concentration [§ 63.684(b)(1)]
- Method(s) used_____
- Concentration at point-of-delivery_____, concentration at point-of-treatment_____
- C_R = _____

❑ HAP Mass Removal Rate [§ 63.684(b)(2)]
- Method(s) used_____
- MR = _____, RMR = _____

❑ HAP Reduction Efficiency [§ 63.684(b)(3)]
- Method(s) used_____
- Average VOHAP concentration_____
- Percent HAP reduction_____
- Point-of-treatment VOHAP concentration (if applicable)_____

❑ Biological Degradation [§ 63.684(b)(4)]
- Method(s) used_____
- R = _____, R_{bio} = _____, or
- MR_{bio} = _____, RMR = _____

❑ Incineration [§ 63.684(b)(5)
- ❑ My incinerator has a permit under 40 CFR 270 or is in compliance with 40 CFR 266.

or

- ❑ My boiler or industrial furnace has a permit under 40 CFR 270 or is in compliance with 40 CFR 266.

Example–Notification of Compliance Status (continued)

4a. Describe how you will monitor the process to ensure that it continuously achieves these performance levels_____

_____

_____

_____

_____

5. Have you determined that the off-site material has an average VOHAP concentration that is < 500 ppmw at the point-of-delivery? ❑ Yes ❑ No If you answered "yes," what Test Method(s) did you use to determine this? If you answered "no," make certain you answer either question 3 or 4 [§ 63.683(b)(1)(iii)].

   Test Method(s)_____

6. If a process vent is part of an affected source, check one of the following [§ 63.683(c)]:

   ❑ The vent stream from each process vent is routed through a closed-vent system to a control device (make certain you answer questions 7-10) [§ 63.690(a)].

   or

   ❑ I have determined that the average VOHAP concentration of the material is < 500 ppmw at the point-of-delivery using method(s)_____ specified in § 63.694(b) [§ 63.690(b)].

7. If a closed-vent system is used, check the following [§ 63.693(c)]:

   ❑ the closed-vent system complies with the requirements of § 63.693(c), including the maintenance of all records.
   ❑ The closed-vent system is designed to operate with no detectable organic emissions determined by method_____ in § 63.694(k) or,
   ❑ The closed-vent system is designed to operate at a pressure below the atmospheric pressure and the system is monitored by at least one pressure gauge.
   - Atmospheric pressure_____
   - Pressure in the closed-vent system_____

8. If a control device is used, check all that apply [§ 63.693]:

   ❑ Carbon adsorption control device [§ 63.693(d)]
   - Recovers _____% Total Organic Compounds[1]
     or _____% Total HAP listed in Table 1
   - I will demonstrate compliance by either: ❑ Performance Test **or** ❑ Design Analysis[2]
   - Describe your plan to manage the carbon used for the carbon adsorption system [§ 63.693(d)(4)]. _____

     _____

     _____

     _____

Example–Notification of Compliance Status (continued)

❑ Condenser [§ 63.693(e)]
- Recovers _____% Total Organic Compounds[1]
  or _____% Total HAP listed in Table 1
- I will demonstrate compliance by either: ❑ Performance Test **or** ❑ Design Analysis[2]

❑ Vapor Incineration [§ 63.693(f)]

❑ Destroys Total Organic Compounds[1]:
- by _____% or
- to achieve an outlet Total Organic Compound[1] concentration of _____ ppmv.

or

❑ Destroys the HAP listed in Table 1:
- by _____% or
- to achieve a total outlet HAP concentration of _____ ppmv.

or

❑ Maintain conditions in the incinerator where:
- residence time = _____ s, and
- temperature = _____ °C

- I will demonstrate compliance by either: ❑ Performance Test **or** ❑ Design Analysis[2]

❑ Boilers and Process Heaters [§ 63.693(g)]

❑ Destroys Total Organic Compounds[1]:
- by_____%, or
- to achieve in the exhausted combustion gases a Total Organic Compound[1] concentration of _____ ppmw.

or

❑ Destroys HAP listed in Table 1:
- by_____%, or
- to achieve in the exhausted combustion gases a total HAP concentration of _____ ppmw.

or

❑ Maintain conditions where:
- Residence time = _____s, and
- Temperature = _____ °C

or

❑ Introduce the vent stream with the fuel that provides the predominant heat input

or

❑ Introduce the vent stream to a boiler or process heater which is permitted under 40 CFR part 270 and complies with the requirements of 40 CFR part 266 subpart H.

- I will demonstrate compliance by either: ❑ Performance Test **or** ❑ Design Analysis[2]

❑ Flare control device (I have done all of the following) [§ 63.693(h)]

❑ Conduct visible emission test_____

❑ Determined net heating value of gas being combusted_____

❑ Determined flare exit velocity_____

1. Not including Methane and Ethane.
2. Attach all design analyses to this report.

Example–Notification of Compliance Status (continued)

9. Describe what methods you will use to inspect and monitor the previously checked control devices (from question 8), including what parameters will be monitored and at what level equipment will be calibrated [§ 63.693].

10. Describe which Test Methods you will use to determine compliance for the control devices which you've checked [§ 63.693].

11. If you plan to make any changes in the methods you use to determine compliance, describe those changes in detail, including, how you plan to monitor and report using the new method(s) [§ 63.9(h)(2)(i)(C)].

Example–Notification of Compliance Status (continued)

12. List all the HAPs emitted [§ 63.9(h)(2)(i)(D)]

HAP	Quantity(units)	Averaging Time	Test Method

*If you need more room, make copies of this page.

13. Using the HAP information determine if your facility is a major source or an area source [§ 63.9(h)(2)(i)(E)].

❑ Major Source ❑ Area Source

NOTE: Only major sources of HAPs are regulated under this rule

A major source is a facility that has the potential to emit (PTE) greater than 10 tons per year of any one hazardous air pollutant (HAP) or 25 tons per year of multiple HAPs. All other sources are area sources.

14. I will provide the Initial Semiannual Summary Report on _____ and the subsequent summary reports on _____ and _____ of each year [§ 63.9(h)(2)(i)(C)].

15. Compliance statement [§ 63.9(h)(2)(i)(G)].

- ❑ The off-site material management units used in this off-site material and recovery operation comply with subpart DD.
- ❑ The process vents used in this off-site material and recovery operation comply with subpart DD.

Sign:_____ Date:_____

Example
Semiannual Summary Report

This is a sample report form that can be used by facilities at their discretion to comply with 40 CFR 63.697(b).

Applicable Rule: 40 CFR part 63, subpart DD–National Emission Standards for Off-site material and Recovery Operations. This Summary Report is being made in accordance with § 63.697(b)(3) (optionally included in this report), § 63.697(b)(4), and § 63.10(e)(3) and covers a 6 month period from _____ to _____.

13. Print or type the following information for each facility in which off-site material is received [§ 63.697(b)(3)]:

Owner/Operator/Title_____

Street Address_____

City_____ State_____ Zip Code_____

Facility Name_____

Facility Contact/Title_____

Facility Contact Phone Number (optional)_____

Facility Address (if different from the owner/operator's)_____

Street Address_____

City_____ State_____ Zip Code_____

Example Semiannual Summary Report (Continued)

14. List the excursions for each affected source and record the information in the following table for the six month period.

Affected Source:_____ Parameter type: ❑ Minimum ❑ Maximum

Reporting Period: from _____ to _____

Month	Date(s) of excursions	Duration	Daily Average Values of Operating Parameter	Operating Parameter Limit
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				

*If excursion is caused by a lack of monitoring data, then write "lack of data" under daily averaging values and be certain to record the date and duration for when the data was not recorded.

then,

– Explain the reasons why data were not collected. _____

Example Semiannual Summary Report (Continued)

15. If during any time during this reporting period, you took actions during a startup, shutdown, or malfunction (including action to correct a malfunction) that are not completely consistent with the procedures specified in your startup, shutdown, or malfunction plan, state that information here [§ 63.697(b)(3)]: _____

_____

_____

_____

_____

_____

_____

**It is not required that question 3 be included in this report; however, this information must be reported, and § 63.697(b)(3)(2) allows for this information to be included in this summary report.*

I certify the above information to be accurate

Sign:_____ date:_____

Chapter 15 - Other Requirements and Information

You're regulated by your State, local, or Tribal air pollution control agency.

Who administers this regulation?

Your State or local air pollution control agency will be regulating you under this rule. If your facility is located in Indian Country, your eligible Tribe will regulate you.

> **Definition:** An *eligible Tribe* means a Tribe that has been determined by EPA to meet criteria for being treated in the same manner as a State, pursuant to the regulations implementing section 301(d)(2) of the ACT.

Authority has not been delegated concerning § 63.694.

There are some portions of this rule that we have chosen not to delegate to your State, locality, or eligible Tribe. Contact your EPA Regional office concerning the regulations under § 63.694.

Do I need a title V permit?

You can find guidance on title V and potential to emit at www.epa.gov/ttn/oarpg/t5pgm.html.

Yes. This rule applies to *major sources* of HAP. Under title V, you must obtain a permit if your facility is a major source.

To determine if your facility is a major source, you will need to calculate your HAP emissions from your entire facility. If you do not have enforceable limits in a State, local or Tribal permit, you must calculate your emissions by determining your potential emissions.

If you need help determining if your facility is a major source or what your potential emissions are, these terms are defined in the Operating Permits Rule § 70.2.

You'll need to add the requirements of this rule to your title V permit.

How do I change my permit to include this rule?

You must reopen your title V permit to add new rules when all of the following occur:

- a new MACT rule becomes effective;
- your initial title V permit has been issued in final form; and
- more than three years are left on the permit.

If a new rule is effective[1] and you have . . .	then. . .
less than three years on your permit	update your title V permit during renewal.
three years or more left on your permit	reopen your permit within 18 months of promulgation of the rule.
do not already have a final title V permit	update your permit application or draft permit.

1. the rule's effective date is announced in the *Federal Register* when it is promulgated. The effective date for this rule is September 20, 1999.

What portions of the General Provisions apply?

The General Provisions were published in the *Federal Register* on March 16, 1994 (Volume 59, page 12408) and apply to all NESHAPs, including the off-site material rule.

This means that when you became subject to this rule, you also became subject to the General Provisions. Some sections in the off-site rule over-ride the General Provisions. You'll find Table 2 of the final rule shows you which sections of the General Provisions apply to Off-Site Waste and Recovery Operations NESHAP and which don't.

Is a Startup, Shutdown, and Malfunction Plan required?

A Startup, Shutdown, and Malfunction Plan (SSMP) is a document required in § 63.6(e)(3)(I) of the General Provisions. A SSMP is required for off-site waste and recovery operations.

Chapter 16 - Getting Additional Help

If you have questions about the rule, first try your State and local air pollution control agencies.

Whom can I ask for help?

There are a lot of places you can go for help, including your:

- State and local air pollution control agency or Tribe
- Local, regional or national trade associations
- State's Small Business Assistance Program (SBAP)
- EPA regional offices

State and Local Contacts can change frequently. To obtain the most current contact information, go to the STAPPA/ALAPCO website (www.4cleanair.org) and then the membership directory. The directory will provide you with the latest contact points for major air regulatory programs (that is, toxic air pollutant emission standard, ozone, etc.) at the State and local level.

> You should contact your State/local agency or Tribe before calling the EPA. They may already have rules in place that are more stringent than Federal requirements.

Trade Associations representing the off-site material industry are listed below. Trade associations sometimes have rule information for their members.

Trade Association	Telephone #	Address
American Petroleum Institute	(202) 682-8470	1220 L St., NW Washington, D.C. 20005
Chemical Manufacturers Assoc.	(202) 887-1237	2501 M St., NW Washington, D.C. 20037
Institute of Chemical Waste Management	(202) 244-4799	4301 Connecticut Ave, NW Suite 300 Washington, D.C. 20008
National Association of Chemical Recyclers	(202) 434-8740	1200 G St., NW Suite 800, Washington, D.C. 20005

Check out your EPA Regional Office home page. It's filled with useful information

Many States have a *Small Business Assistance Program*. If you are a small business and do not know who your SBAP is, you can call EPA's Control Technology Center Hotline at (919) 541-0800 or visit EPA's SBAP at www.epa.gov/ttn/sbap for help.

EPA Regional Air Division Office contact numbers may also change frequently. To obtain the most up-to-date contact information, you may want to visit your Regional Office's website.

EPA Region	States Covered	Home Page
Region I	CT, ME, MA, NH, RI & VT	www.epa.gov/region1
Region II	NJ, NY, Puerto Rico & Virgin Islands	www.epa.gov/region2
Region III	DE, MD, PA, VA, WV & DC	www.epa.gov/region3
Region IV	AL, FL, GA, KY, MS, NC, SC & TN	www.epa.gov/region4
Region V	IL, IN, MI, WI, MN & OH	www.epa.gov/region5
Region VI	AR, LA, NM, OK & TX	www.epa.gov/region6
Region VII	IA, KS, MO & NE	www.epa.gov/region7
Region VIII	CO, MT, ND, SD, UT & WY	www.epa.gov/region8
Region IX	AZ, CA, HI, NV, American Samoa, & Guam	www.epa.gov/region9
Region X	AK, ID, WA & OR	www.epa.gov/region10

If you have a regulated facility, call your State/local agency or Tribe before trying the Regional Office. If you work for a State/local agency or Tribe, call the Regional Office before trying the Office of Air Quality Planning and Standards (OAQPS), Emission Standards Division (ESD).

This rule has a page of its own in the UATW's Rule and Implementation Page.

Can I get more information on the Web?

You can obtain a wealth of information on the World Wide Web (WWW). Some of the more popular avenues for obtaining information on this rule include:

- EPA's Unified Air Toxics Website (www.epa.gov/ttn/uatw) You can download copies of preambles, regulations, background information documents, policy memos, and

other guidance materials here. All rule pages can be found under the Rules and Implementation Page.

- EPA's Applicability Determination Index (ADI) (http://es.epa.gov/oeca/eptdd/adi.html)
  EPA's Office of Enforcement and Compliance Assurance (OECA) posts memos dealing with applicability and compliance at this site.

- STAPPA/ALAPCO home page (http:www.4cleanair.org)
  STAPPA/ALAPCO is the State and Territorial Air Pollution Program Administrators (STAPPA) and Local Air Pollution Control Officials (ALAPCO) organization. STAPPA/ALAPCO has members representing each State and local air pollution control agency.

  You can obtain air pollution information at this site, including a document entitled "Communicating Air Quality: A Compendium of Resources." It lists air pollution education materials that State and local agencies have created.

- Texas Natural Resources and Conservation Commission's (TNRCC) web site for off-site material (http://www.tnrcc.state.tx.us/air/opd/63/DD/ddhp.htm)
  This web site contains further guidance for the off-site waste rule, including navigateable flowcharts which can help you in determining applicability and compliance.

A helpful document is:

EPA-453/R-96-010b, "Basis and Purpose Document for the Development of Final National Emission Standards for Hazardous Air Pollutants for Off-Site Waste and Recovery Operations," May 1996.

Appendix A
Contents for 40 CFR Part 63, Subpart DD, Final Rule

Contents for 40 CFR Part 63, Subpart DD, Final Rule

If I use an external floating roof to comply with Tank Level 2 controls, what additional requirements must I meet?	§ 63.685(f)
If I use a control device with air emissions vented through a closed-vent system to comply with Tank Level 2 controls, what additional requirements must I meet?	§ 63.685(g)

Standards: Oil-Water and Organic-Water Separators

If I choose to show compliance by controlling air emissions from an oil-water or organic-water separator, what must I do to comply?	§ 63.686(b)

Standards: Surface Impoundments

If I choose to show compliance by controlling air emissions from a surface impoundment, what must I do to comply?	§ 63.687(b)

Standards: Containers

If I choose to show compliance by controlling air emissions from a container, what must I do to comply?	§ 63.688(b)
What must I do if my container has a design capacity $> 0.1 m^3$ and is used for treatment of off-site waste by a waste stabilization process?	§ 63.688(c)

Standards: Transfer Systems

If I choose to show compliance by controlling air emissions from a transfer system, what must I do to comply?	§ 63.689(a)
What if my transfer system is an individual drain system?	§ 63.689(b)
What if my transfer system is not an individual drain system?	§ 63.689(c)
What if I use covers to control air emissions from my transfer system?	§ 63.689(d)

Standards: Process Vents

How must I control HAP emitted from process vents?	§ 63.690(b)

Standards: Equipment Leaks

How must I control HAP emitted from equipment leaks?	§ 63.691(b)

Standards: Closed-Vent Systems and Control Devices

What requirements must I meet for closed-vent systems and control devices?	§ 63.693(b)
How must the closed-vent system be designed and operated?	§ 63.693(c)
What are the requirements for carbon adsorption control devices?	§ 63.693(d)
What are the requirements for condenser control devices?	§ 63.693(e)
What are the requirements for vapor incinerator control devices?	§ 63.693(f)
What are the requirements for boiler and process heater control devices?	§ 63.693(g)
What are the requirements for flare control devices?	§ 63.693(h)

Testing Methods and Procedures

How do I determine the VOHAP concentration for off-site material at the point-of-delivery?	§ 63.694(b)
How do I determine the VOHAP concentration for the treated off-site material streams at the point-of-treatment?	§ 63.694(c)
How do I determine the treatment process VOHAP concentration limit?	§ 63.694(d)
How do I determine the required HAP mass removal rate?	§ 63.694(e)
How do I determine the actual HAP mass removal rate (MR)?	§ 63.694(f)
How do I determine the HAP reduction efficiency?	§ 63.694(g)
How do I determine the HAP biodegradation efficiency?	§ 63.694(h)
How do I determine the actual HAP mass removal rate (MR_{bio})?	§ 63.694(i)
How do I determine the maximum organic HAP vapor pressure of the off-site material in tanks?	§ 63.694(j)
How do I determine "no detectable organic emissions?"	§ 63.694(k)
How do I determine closed-vent system and control device performance compliance?	§ 63.694(l)
How do I determine the process vent stream flow rate and total HAP concentration?	§ 63.694(m)

Inspection and Monitoring Requirements

What inspections and monitoring must I do for a Tank Level 2 fixed roof and floating roof?	§ 63.695(b)
What inspections and monitoring must I do for closed-vent systems?	§ 63.695(c)
What inspections and monitoring must I do for a transfer system equipped with a cover?	§ 63.695(d)

Recordkeeping Requirements

Which General Provisions apply?	§ 63.696(a)
What records must I maintain for a control device?	§ 63.696(b)
What records must I maintain for an internal floating roof?	§ 63.696(d)
What records must I maintain for an external floating roof?	§ 63.696(d)
What records must I maintain for a fixed roof?	§ 63.696(e)
What records must I maintain for an enclosure?	§ 63.696(f)
What records must I maintain for planned routine maintenance operations?	§ 63.696(g)
What records must I maintain for unexpected control device malfunctions?	§ 63.696(h)

Reporting Requirements

Which General Provisions apply?	§ 63.697(a)
What notifications and reports must I submit for control devices?	§ 63.697(b)
What notifications must I submit if I have a tank equipped with an internal floating roof or an external floating roof to comply with Tank Level 2 controls?	§ 63.697(c)

Delegation of Authority:

What authority will not be delegated to the States?	63.698(b)

Appendix B General Inspection Guidance for Waste Management Unit Requiring Air Emission Control under Subpart DD

GENERAL INSPECTION GUIDANCE FOR WASTE MANAGEMENT UNIT REQUIRING AIR EMISSION CONTROL UNDER SUBPART DD

This document is intended to provide guidelines for conducting an inspection of affected facilities for compliance with subpart DD of the Off-Site Waste and Recovery Operations NESHAP. The scope is limited to those waste management units (i.e. tanks, surface impoundments, and containers that require air emission controls under the rule. The material contained in this document is intended to identify and list those points that require the inspectors consideration when planning and performing on-site facility inspections. The material is also generally limited to visual and recordkeeping evaluation of regulated items, i.e., no source testing or other measurements are required of the inspector to assess compliance. Although not addressed in this document, discussion of emission measurement techniques and the associated monitoring equipment may be found in other EPA reference documents such as the "Benzene Equipment Leak Inspection Manual" (Reference EPA 340/1-90-001). The visual inspection considerations focus on the assessment of regulated equipment using key inspection points or visible criteria while following the necessary safety guidelines. The recordkeeping inspection considerations focus on the evaluation of operating conditions and assessment of facility monitoring, routine owner/operator inspection and recordkeeping requirements.

The inspection guidance is organized by equipment item. This format prevents duplication of information and ensures that items are not overlooked, thereby saving time and eliminating backtracking. Suggested procedural steps for evaluating specific equipment are given to guide the inspector through the inspection. Concise, complete documentation of inspection results is necessary and should be made at the inspection site. Inspectors should be aware of the OSHA confined space entry regulation that became effective on April 15, 1993. This regulation can be found at 29 CFR 1910.146. The regulation defines confined spaces and requires permits be issued and certain safety measures followed.

Record inspection checks for this rule are presented in a separate document. They are intended to augment information obtained during the Visual inspection. In some cases when health and safety considerations preclude use of visual inspection techniques, facility records will be the only source of compliance documentation available.

In preparation for the upcoming inspection, the inspector should review the facility's file including all applicable permits.

The following equipment will be necessary for a full inspection:

Non-sparking flashlight
Camera
Respirator(s)
SCBA
Hard hat
Safety shoes
Calculator
Copy of Regulation
Binoculars
Extra batteries and film for camera
Photo log
Dowels to measure gaps
Employee identification /credentials
Facility map – if available

INSPECTION GUIDANCE FOR
OFF-SITE WASTE OPERATIONS

General Information

1. Name of corporation, company, or individual owner: _____

   _____

2. Mailing Address: _____

   _____

   _____

3. Facility Address: _____

   _____

   _____

4. Source Number (permit Number, date of permit, permit expiration, etc.): _____

   _____

5. Name and Title of Contact: _____
6. Telephone Number: _____

Inspection Information

7. Date of Inspection, Time of Day, Weather Conditions:_____

8. Name and title of Government Official Conducting Inspection:_____

9. Pre-inspection interview:_____

10. Post-inspection interview:_____

11. Additional comments:_____

12. Photo log:_____

_____

_____

_____

_____

_____

_____

13. Sketch of Facility:

14. Follow-up activities:_____

_____

_____

_____

_____

_____

GUIDANCE FOR VISUAL INSPECTION OF STORAGE TANKS [§63.685]

Inspection Consideration	Notes
1. General	
What is the design capacity of the tank?	
Is the off-site material managed in the tank a "light material" as defined in the rule (§63.681)?	
Is the tank used for a waste stabilization process?	
Is the tank required to meet Tank Level 1 or 2 controls?	
Do the tanks exhibit any signs of corrosion?	
Is there a pressure gauge? What is the pressure reading?	
2. Level 1 [§63.685(c)]	
If Level 1, what Tank Level 1 controls requirements does the tank meet:	
• Determine maximum HAP vapor pressure using procedures specified in §63.694(j)before the first time the off-site material is placed in the tank	
• Perform a new determination for changes that increase the maximum HAP vapor pressure to levels specified in Table 3 or Table 4 of Subpart DD for the tank design capacity	
• Control air emissions in accordance with provisions specified in 40 CFR subpart OO, Level 1, or control air emissions with the provisions for Tank Level 2 controls as specified in §63.685(d)	

GUIDANCE FOR VISUAL INSPECTION OF STORAGE TANKS [§63.685]

Inspection Consideration	Notes
3. Level 2 [§63.685(d)]	
Tanks that may be used to meet Tank Level 2 controls:	
• A fixed-roof tank equipped with an internal floating roof as specified in §63.685(e)	
• A tank equipped with an external floating roof as specified in §63.685(f)	
• A tank vented through a closed-vent system to a control device as specified in §63.685(g)	
• A pressure tank designed and operated as specified in §63.685(h)	
• An enclosed tank that is vented through a closed-vent system to an enclosed combustion control device as specified in §63.685(i)	

GUIDANCE FOR VISUAL INSPECTION OF STORAGE TANKS [§63.685]

Inspection Consideration	Notes
4. Fixed Roof with an Internal Floating Roof [§63.685(e)]	
Visually determine that the tank is a fixed roof tank with an internal floating roof. Is the roof a separate cover or part of the tank structural design? What materials are used in the construction of the roof?	
Inspect the periphery of the floating roof and its closure devices for possible leaks in the shell, valves, flanges and pumps. Note any liquid accumulations from tank appurtences or evidence of corrosion especially on the tank shell or roof.	
Inspect the fixed roof for possible visible cracks, holes, gaps or other open spaces between roof sections or tank wall.	
What is the maximum organic vapor pressure of the hazardous waste in the tank? What is the tank's normal organic vapor pressure? Is there a pressure gauge on the tank for continuous readout?	
What are the maximum and minimum flow-weighted annual average volatile organic contents of the hazardous waste streams managed in the tank?	
What is the design capacity of the tanks? What is the actual volume held in the tank?	
What is the withdrawal/filling schedule for the tank? When was the tank last emptied and refilled?	
Which standard for tanks has the facility elected to comply with? [§§ 63.683(b)(1) (i), (b)(1)(ii) or (b)(1)(iii)]	
Visually inspect the internal floating roof components through openings on the fixed-roof every calendar year; inspect primary seal, secondary seal, gaskets, slotted membranes, and sleeve seals each time the tank is emptied and degassed and at least every 10 years.	

GUIDANCE FOR VISUAL INSPECTION OF STORAGE TANKS [§63.685]

Inspection Consideration	Notes
5. Closed- Vent System	
Is there a closed vent system associated with the fixed roof tank?	
Visually inspect the closed vent system. Note visible gaps, holes or corrosion spots seen in the ductwork of the closed vent system.	
6. Control Device	
Is there a control device connected to the closed-vent system?	
What type of control device is used?	
Is the control device operational?	
Check piping valves and fittings for visible leaks.	
What type of continuous monitoring device is used? Is the device operational? What parameter is the device monitoring? Note level monitored and compare with design levels from facility reports during record inspection.	

GUIDANCE FOR VISUAL INSPECTION OF STORAGE TANKS [§63.685]

Inspection Consideration	Notes
7. External Floating Roof (EFR)	
Visually inspect the condition of the external floating roof. Note the condition (corrosion free, small pits in surface, pools of standing liquid, visible corrosion spots etc.).	
Confirm that the floating roof is floating on the liquid surface (except when supported by the leg supports).	
Determine that the floating roof is equipped with two continuous seals, one above the other, between the wall of the tank and the roof edge. (The lower seal is the primary seal, and the upper seal is the secondary seal.)	
Determine that each opening in the floating roof is equipped with a closure device. Visually inspect for cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.	
Visually inspect after installation ;thereafter, at least once every year.	
8. Closure Device	
Determine that a closure device (seal) is between the wall of the storage tank and the roof edge. This can be performed for the secondary seal by visual inspection from the platform.	

GUIDANCE FOR VISUAL INSPECTION OF STORAGE TANKS [§63.685]

Inspection Consideration	Notes
8a. Primary Seal	
Determine that the seal is either a metallic shoe seal or a liquid-mounted seal. Check that the seal is continuous around the tank.	
Determine that the gaps between the wall and seal do not exceed 212 cm^2 per meter of vessel diameter and the gap widths do not exceed 3.8 cm.	
Inspect and measure gaps between the wall and seal within 60 days after initial operation; thereafter, at least once every 5 years. (Before inspection, operator shall notify the Administrator as specified in §63.697).	
For metallic shoe seals, check that there is a flexible coated fabric that spans the space between the metal shoe and the vessel wall. Determine that one end of the metallic shoe seal extends into the stored liquid and the other extends a minimum vertical distance of 61 cm (24 inches) above the liquid surface.	
Identify any corrosion, holes, tears or other openings in the shoe, flexible seal fabric, or seal envelope.	
8b. Secondary Seal	
Determine that a secondary seal is installed above the primary seal and covers the annular space between the floating roof and the wall of the tank.	
Determine that the gaps between the wall and seal do not exceed 21.2 cm^2 per meter of tank diameter and the gap widths do not exceed 1.3 cm.	
Inspect and measure the gaps between the wall and seal within 60 days after initial operation; thereafter, at least once every year. (Before inspection, operator shall notify the Administrator as specified in §63.697.)	
Look for any corrosion, holes, tears, or other openings in the	

GUIDANCE FOR VISUAL INSPECTION OF STORAGE TANKS [§63.685]

Inspection Consideration	Notes
9. Automatic Bleeder Vents	
Observe that the vents are closed during normal operations (exemptions for emptying or refilling).	
If possible, observe a tank filling operation. While floating the roof off the leg supports, observe whether the automatic bleeder vents open. (Vents may be open only when the roof is being floated off the tank bottom during filling or when the roof is supported on the legs during draining operation.)	
10. Rim Space Vents	
Visually determine if the rim space vents are closed during normal operation (exceptions during emptying or refilling).	
If possible, observe whether the rim space vents are open when the roof is being floated off the leg supports. (Rim space vents may be open only when the roof is being floated off or landing on the roof leg supports during filling or draining operations).	
11. Emergency Roof Drain	
Determine that the emergency roof drain is covered with a slotted membrane fabric. Does the fabric cover at least 90 percent of the opening? Were actual measurements or visual estimations used for this determination?	
12. Deck Openings	
Confirm by visual inspection that each opening in the external floating roof deck is equipped with a gasketed cover, seal or lid. Without opening the lid or cover, visually inspect the visible portion of any seal or gasket. Does the seal or gasket appear worn, torn, shredded, ripped, or otherwise misaligned to prevent forming a vapor-tight seal?	
Are all deck openings closed? (The only exception is when the device is in actual use.)	

GUIDANCE FOR VISUAL INSPECTION OF OIL-WATER AND ORGANIC-WATER SEPARATORS [§63.686]

Inspection Consideration	Notes
1. Separator Fixed Roof	
Determine that the separator is equipped with a fixed roof design.	
Does the vapor head space underneath the fixed roof vent through a closed-vent system to a control device (§63.1044)? If so, determine that the separator vents directly through a closed-vent system to a control device. (The closure device shall be designed to operate with no detectable organic emissions, as specified in §63.1046(a), when the control device is operating with a head space vapor pressure equal to or greater than atmospheric pressure).	
Determine that the fixed roof and its closure devices are designed to form a continuous barrier over the entire surface area of the liquid in the separator.	
What is the construction material of the fixed roof and its closure devices?	
Inspect the periphery of the fixed roof for possible cracks, holes, gaps, or other open spaces between roof section joints or between the interface of the roof edge and the separator wall.	
When the separator contains regulated-material, the closure device should be secured in the closed position except as specified in §63.1042(c).	
Inspect the closure device for visible cracks, holes, gaps or other open spaces in the closure device or between the perimeter of the opening and the closure device.	

GUIDANCE FOR VISUAL INSPECTION OF OIL-WATER AND ORGANIC-WATER SEPARATORS [§63.686]

Inspection Consideration	Notes
2. Separator Floating Roof	
Confirm that the floating roof is floating on the liquid surface during normal operations.	
Determine that the floating roof is equipped with two continuous seals, one above the other, between the wall of the separator and the roof edge. (The lower seal is the primary seal, and the upper seal is the secondary seal.)	
Determine that each opening in the floating roof is equipped with a closure device. Visually inspect for cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.	
2a. Primary Seal	
Determine that the seal is either a metallic shoe seal or a liquid-mounted seal (§ 63.1041).	
Determine that the gaps between the wall and seal do not exceed 67 cm^2 per meter of separator wall perimeter, and gap widths do not exceed 3.8 cm.	

GUIDANCE FOR VISUAL INSPECTION OF OIL-WATER AND ORGANIC-WATER SEPARATORS [§63.686]

Inspection Consideration	Notes
2b. Secondary Seal	
Determine that a secondary seal is installed above the primary seal and covers the annular space between the floating roof and the wall of the separator.	
Determine that the gaps between the separator and seal do not exceed 6.7 cm^2 per meter of separator wall perimeter and the gap widths do not exceed 1.3 cm.	
If the floating roof is equipped with one or more emergency roof drains, determine that the emergency roof drain is covered with a slotted membrane fabric. Does the fabric cover at least 90 percent of the opening or flexible fabric sleeve seal?	
When the separator contains regulated-material, the closure device should be secured in the closed position except as specified in §63.1043(c) or §63.1044(c).	
Inspect separator floating roof as specified in §63.1047(b).	
3. Pressurized Separator	
Does the pressurized separator operate as a closed-system?	
What is the design capacity of the separator? (Verify that it does not vent as a result of compression of the vapor head space.)	
All openings shall be equipped with closure devices designed to operate with no detectable organic emissions, as specified in §63.1046(a).	
When the separator contains regulated-material, the closure device should be secured in the closed position except as specified in §63.1045(b)(3)(i) or (b)(3)(ii).	

GUIDANCE FOR VISUAL INSPECTION OF OIL-WATER AND ORGANIC-WATER SEPARATORS [§63.686]

Inspection Consideration	Notes
4. Separator Vented to Control Device	
Is there a control device connected to the closed-vent system?	
What type of control device is used?	
Is the control device operational?	
Check piping valves and fittings for visible leaks.	
What type of continuous monitoring device is used? Is the device operational? What parameter is the device monitoring? Note level monitored and compare with design levels from facility reports during record inspection.	

GUIDANCE FOR VISUAL INSPECTION OF SURFACE IMPOUNDMENTS [§63.687]

Inspection Consideration	Notes
1. General	
Observe if the surface impoundment has a cover. Is it a floating membrane cover or a cover that is vented through a closed-vent system to a control device?	
Visually inspect cover and openings such as access hatches, sampling ports, and gauge wells. They should be covered completely and free from cracks, gaps, holes, or open spaces. Does the cover form a continuous barrier over the entire surface area of the liquid?	
2. Cover and Openings	
If a floating membrane cover, is the cover floating on the liquid surface (§63.942)? Inspect floating membrane following installation and thereafter, at least once each calendar year(see §63.946(d) for alternative inspection requirements).	
Is each opening closed and in the sealed position unless sampling, removal or equipment inspection, maintenance, repair, or sludge removal is occurring?	
If floating membrane cover is equipped with an emergency cover drain, the drain cover can be a slotted membrane that covers 90 percent of the opening or a flexible fabric sleeve seal?	
What are the construction of the cover materials? If a FMC fabricated of HDPE, what is the thickness of the HDPE, >2.5 mm?	
If FMC is not HDPE, does the material or composite have (1)organic permeability properties equivalent to HDPE and (2)chemical and physical properties to maintain the material integrity for the intended service life?	

GUIDANCE FOR VISUAL INSPECTION OF SURFACE IMPOUNDMENTS [§63.687]

Inspection Consideration	Notes
3. Vented to a Control Device	
Visually inspect the enclosure for leaks. Is each cover seal, access hatch or other openings free from cracks or gaps, closed and properly sealed?	
At initial startup determine that the system does not have organic emissions. After initial inspection, visually inspect at least once per year for defects that result in air emissions, §63.695(c)(see §63.693(b)(4)(ii) for alternative inspection requirements).	
Is there a pressure gauge? What is the pressure reading?	
What are the construction materials of the cover and closure devices(consider organic vapor permeability; liquid contact; exposure to the elements; and operating practices)?	
If a regulated-material is in the surface impoundment, cover and closure devices should be secured in the closed position with vapors underneath vented to the control device, except as specified in §63.943(c)(1) and (c)(2).	

GUIDANCE FOR VISUAL INSPECTION OF CONTAINERS [§63.688]

Inspection Consideration	Notes
1. General	
What is the design capacity of the container?	
Is the hazardous waste managed in the container a "light material" as defined in the rule (§63.681)?	
Is the container used for a waste stabilization process?	
Is the container required to meet Container Level 1, 2, or 3 controls?	
Does the container meet applicable U.S. Department of Transportation Regulations?	
Does the container exhibit any signs of corrosion?	
Is there a pressure gauge? What is the pressure reading?	
2. Level 1	
If Level 1, what Level 1 alternative does the container meet:	
• DOT	
• Cover and closure device	
• Organic vapor-suppressing barrier	
3. Level 2	
If Level 2, what Level 2 alternative does the container meet:	
• DOT	
• No detectable emissions	
• Vapor tight	

GUIDANCE FOR VISUAL INSPECTION OF CONTAINERS [§63.688]

Inspection Consideration	Notes
4. Level 3	
If Level 3, what Level 3 alternative does the container meet:	
• Enclosure vented to control device	
• Vented directly to control device	
Is the enclosure designed/operated to meet criteria for a permanent total enclosure (40 CFR 52.741)	
Treatment of Containerized Waste (waste stabilization)	
Confirm that the opening of a container for treatment purposes is performed under a cover or enclosure equipped with a closed vent system routing all vented container vapors to a control device, or the container itself is venter directly through a closed vent system to a control device.	
5. Cover, Lids and Openings	
Observe that the container covers and all openings including bungs, hatches and sampling ports are closed.	
6. Seals, Gaskets and Latches	
Observe that each opening on the container is sealed in the closed position with a gasket and latch except during waste loading, removal, inspection or sampling.	

GUIDANCE FOR VISUAL INSPECTION OF INDIVIDUAL TRANSFER SYSTEMS

Inspection Consideration	Notes
1. General	
Determine whether the transfer system is also an individual drain system. If the system is also an individual drain system follow subpart RR.	
Visually confirm that the transfer system has continuous hard-piping with joints and seams between sections permanently or semi-permanently sealed. Confirm that the system is enclosed and vented through a closed-vent system to a control device.	
Is there a pressure gauge? Is the internal pressure for the enclosure maintained at a level less than atmospheric pressure? (Closed-vent system and control device are designed and operated in accordance with §63.693)	
2. Cover and Closure Devices	
Visually check that all covers and closure devices form a continuous barrier over the entire surface area of the off-site material except for openings at the inlet and outlet to the transfer system. (Inlet and outlet openings shall be of minimum size).	
Visually inspect covers and closure devices for cracks, holes, gaps, or other open spaces between cover section joints or the interface of the cover edge and its mounting. (When transfer system is buried partially or entirely underground, inspection is required only for those portions of the cover that extend to or above the ground).	
Are covers closed and secured in the closed position except at inlet and outlet openings to the transfer system with no visible cracks, gaps, or other spaces in the closure device or between the perimeter of the opening and the closure device?	
What is the construction material of the cover and closure device? Will it minimize exposure of off-site material?	
Are covers maintained in the closed and sealed position when off-site material is in the system except when the opening is used for waste sampling, removal, inspection, maintenance or repair?	